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Commercial Fertilizers : Complete Report For 1907

J. H. Stewart

B. H. Hite

WEST VIRGINIA UNIVERSITY
AGRICULTURAL EXPERIMENT STATION
MORGANTOWN, W. VA.

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Commercial Fertilizers

COMPLETE REPORT

FOR

1907

BY J. H. STEWART AND B. H. HITE

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Complete Report

on

Commercial Fertilizers

for 1907

The following pages contain a complete report of the work required by the fertilizer law of this State for the year ending December 31st, 1907.

The analyses herein reported go to show that too much low grade stuff is getting into this State. Of course there is no law against it, and there ought not to be. So long as some one has such stuff for sale, states that he is going to sell and sells what he states it is the business of no one but the fellow who wants to buy it. But it is very poor business on any one's part to invest in low grade fertilizers. For every reason that may be assigned for using fertilizers at all there are always two reasons for using high grade fertilizers, and the first is the saving in cost.

From the moment the raw materials leave the mine, slaughter house or garbage dump until they are in the soil the cost of handling is one of the heaviest items the farmer eventually has to meet. Such expenses are the same for a ton of fertilizer containing one per cent of plant food as for a ton of fertilizer containing two or more per cent. The average freight bill alone on fertilizers shippped into this State is over two dollars. This, and a number of like bills, could, of course, be cut in two by purchasing fertilizers containing double the amount of actual plant food. The cost of hauling fertilizers from warehouse, cars or boats to the farm is an item worth considering if only for wear and tear on horses and wagons. Why make two trips if one will do?

Concentrated high grade materials necessarily command a higher price, but the difference is not always proportional to the difference in actual plant food, the high grade materials as a rule being cheaper, pound for pound of actual plant food.

Two brands, the one containing just twice as much of each constituent as the other, were not registered this year. The nearest approach to such a relation was provided by The Gem Alkaline Phosphate and the Triple Bone and Potash—the former containing 6.51% available phosphoric acid and 3.24% potash; the latter containing 12.58% available phosphoric acid and 6.00% of potash. It will be observed that the actual available plant food in each case consists of the same constituents, phosphoric acid and potash, and that these are mixed in almost exactly the same proportions. The Gem Alkaline Phosphate contains one pound of potash to 2.01 pounds of phosphoric acid. The Triple Bone and Potash contains one pound of potash to 2.09 pounds of phosphoric acid. A ton of the Gem Alkaline Phosphate contained 195 pounds of this mixture of actual plant food and sold for $16.00, or the farmer who bought it paid 8.2 cents per pound for his plant food. A ton of the Triple Bone and Potash contained 371.6 pounds of the same mixture and sold for $18.50, so the farmer who bought it paid 5 cents a pound for his plant food.

Reference to the complete report on these two samples (No. 5987 and No. 5969) will show that there was no difference in quality to account for the wide difference in cost; in fact, but one-fourth of the available phosphoric acid in the Gem Alkaline was immediately soluble, as against three-fourths in the Triple Bone and Potash.

If purchasers of commercial fertilizers would only get into the habit of calculating the number of pounds of plant food in a ton of every fertilizer in which they are interested they might often be surprised to note how much they might have saved on the quantities of plant food they have been purchasing, or how much more plant food they might have purchased for the same money.

But there is yet another and a better reason for using the concentrated fertilizers. It has to do with the fitness of the various sorts of fertilizer materials for supplying the needs of plants. As a rule that has but few exceptions, the more concentrated the materials from which the fertilizer is made the more suitable (or less objectionable) they are as food for plants. "High grade" sulphate and "high grade" muriate of potash are more concentrated than the lower grades, and correspondingly more acceptable, to plants. The high grade sulphate contains nothing objectionable to any plant. It is all that could be asked of a potash fertilizer. In the muriate the potash is associated with chlorine, a material objectionable to the majority of crops, and especially (and unfortunately) to some of the crops requiring potash in largest quantities. The amount of chlorine in real high grade muriate is small, being considerably less than the amount of actual potash, and may be used on the great majority of crops with most excellent results. Lower grades of potash materials must be used with greater care.

Passing down the list of potash materials from high grade sulphate and muriate to low grade manure salts and kainit, the chlorine increases with the inferiority, so that the "grade" of a potash material, from an agricultural or any other standpoint, may be pretty well established by the amount of chlorine it does *not* contain.

Kainit is the lowest grade material mentioned in any affidavit filed during the past year. That it was not the lowest grade material used, is manifest from the analyses of too many brands hereinafter reported. Compare again the two samples already referred to. One ton of the Triple Bone and Potash contained 120 pounds of actual potash and 108 pounds of chlorine. One ton of the Gem Alakline Phosphate contained 64.8 pounds actual potash and 356.4 pounds actual chlorine.

Low grade sources of potash may be used on some crops, if the user is advised of their presence (as our law abundantly provides) so that he may take precautions to get rid of the excess of chlorine before it can injure his crop, but this does not make

the conduct of some companies any easier to defend when, without a word of warning in the affidavit they proceed to dump in powder waste or other very low grade stuff until the weight of chlorine alone is double the combined weight of every valuable constituent is claimed. The brands selected as examples are not unfair. Instead of 5.5 pounds of chlorine to one of potash in the Gem Alkaline Phosphate, the same manufacturers provide 7.6 pounds in Zell's Little Giant, the difference alone being more than double the chlorine equivalent in the Triple Bone and Potash. On the other hand the 0.9 pound of chlorine to one of potash in Triple Bone and Potash is by no means the best figure that could have been selected. Compare Bell's Potato and Tobacco Special with one-tenth of a pound of chlorine to one pound of potash.

It will be observed that the 356 pounds of actual chlorine per ton accounts for considerably more than one-sixth of the total weight of fertilizer. Suppose this could be separated and sacked up by itself. How many farmers, after paying a very high price, including double freight, as above stated, and after hauling five loads of the fertilizer home, would drag their team all the way back again for a yet bigger load of straight chlorine. Every sack of it would be left with the agent, even if he had to be paid to throw it away. By selecting fertilizers in which the potash is derived from high grade muriate excessive quantities of chlorine are avoided. Or the chlorine may be eliminated entirely by selecting fertilizers containing high grade sulphate of potash. It is clearly the intention of the statute that the purchaser shall be provided with all necessary information to enable him to make such selections, not only in the case of potash materials, but also in the case of phosphoric acid and nitrogen. And such information is always at the disposal of the purchaser, except when the affidavit fails to fully represent the fertilizer. For such failures there is but one remedy—*the attention of purchasers.*.

The attention of purchasers is respectfully directed to the following table, giving the names of the various brands in

which have been found, not 5.5, but 6 or more pounds of chlorine for every pound of actual potash. The year in which such excessive quantities of chlorine were found and the names of the various manufacturers responsible for them are also given.

TABLE I.

1902	
Gem Alkaline Bone	American Agricultural Chemical Co.
Great Eastern English Wheat Grower	American Agricultural Chemical Co.
Canton Chemical Harrow Brand Crop Grower	American Agricultural Chemical Co.
1903	
Gem Alkaline Bone	American Agricultural Chemical Co.
W. & A. Special Fall Mixture	American Agricultural Chemical Co.
Canton Chemical Harrow Brand Crop Grower	American Agricultural Chemical Co.
Lazaretto Excelsior A. A. A	American Agricultural Chemical Co.
Williams & Clark Prolific Crop Producer	American Agricultural Chemical Co.
Zell's Little Giant	American Agricultural Chemical Co.
Baugh's General Crop Grower	Baugh & Sons Co.
1904	
A. A. C. Co.'s Regular Corn Fertilizer	American Agricultural Chemical Co.
Gem Alkaline Phosphate	American Agricultural Chemical Co.
Detrick's Paragon Ammoniated Bone Phosphate	American Agricultural Chemical Co.
Great Eastern Soluble Bone & Potash	American Agricultural Chemical Co
Susquehanna XXV Phosphate	American Agricultural Chemical Co.
Zell's Little Giant	American Agricultural Chemical Co.

1905

Canton Baker's Special Wheat, Corn and Grass Mixture.....American Agricultural Chemical Co.
Canton Soluble Bone and Potash.....American Agricultural Chemical Co.
Canton Eagle Phosphate.....American Agricultural Chemical Co.
Great Eastern Japanese Wheat Grower.....American Agricultural Chemical Co.
Williams and Clark's Prolific Crop Producer.....American Agricultural Chemical Co.
Zell's Little Giant.....American Agricultural Chemical Co.
Zell's Economizer Phosphate.....American Agricultural Chemical Co.

1906

A. A. C. Co.'s Regular Corn Fertilizer.....American Agricultural Chemical Co.
Williams & Clark's Prolific Crop Producer.....American Agricultural Chemical Co.

1907

Great Eastern Japanese Wheat Grower.....American Agricultural Chemical Co.
Williams & Clark's Prolific Crop Producer.....American Agricultural Chemical Co.
Zell's Little Giant.....American Agricultural Chemical Co.
Zell's Economizer.....American Agricultural Chemical Co.
Zell's Eclectric Phosphate.....American Agricultural Chemical Co.

The table shows that during the period stated this excessive quantity of chlorine has turned up thirty times, eighteen different brands having been represented to date. It is not always found in the same brands, so it is not an easy matter to predict just where it will turn up next.

Farmers will find at their disposal an abundance of all sorts of fertilizers containing high grade sources of potash whenever they let it be understood that other sorts will not be accepted. Meanwhile it might be well to note who are the firms now proposing to supply such fertilizers—who it is that now claims to use real high grade sources of potash.

Table II. gives the names of the manufacturers, the number of registered brands containing potash of some sort, and the number of brands in which sulphate or muriate of potash is claimed. It will be observed that this table is simply a matter of the statements made in the affidavits submitted by manufacturers.

TABLE II.

NAME OF MANUFACTURER	Number of Registered brands containing potash.	Number of brands claiming high grade sulphate or high grade muriate of potash
American Agricultural Chemical Co	79	11
Armour Fertilizer Works	12	8
Baltimore Pulverizing Co	3	3
Baugh & Sons Co	15	12
Bowker Fertilizer Co	8	8
Bell, Geo. A	1	1
Farmer & Co., W. S	6	none
Griffith & Boyd Co	4	2
Hess, S. M. & Bro	7	4
Hubbard, W. P. & Co	1	none
Jarecki Chemical Co	6	6
Martin, D. B. & Co	6	4
Muskingum Valley Fertilizer Co	2	2
Marietta Bone & Phosphate Co	4	1
Ohio Farmers Fertilizer Co	5	1
Ober G. & Sons Co	8	6
Pollock Fertilizer Co., The	3	none
Pittsburg Provision & Packing Co	5	5
Piedmont-Mt. Airy Guano Co	16	15
Rasin-Monumental Co.	21	11
Swift & Co	5	5
Thomas, I. P. & Son Co	4	1
Thomas, D. A	4	1
Tuscarora Fertilizer Co	11	8
Virginia-Carolina Chemical Co	17	10
Wooldridge-Orchilla Co., The	8	2
Wooldridge, Robert A	9	6
Wood, T. W. & Sons	4	4

The reasons for using high grade sources of nitrogen in commercial fertilizers are much the same as have been given for using high grade sources of potash. The opportunities for

cutting down the cost of actual plant food are fully as great. In the case of potash, availability did not need to be considered, as all potash containing materials (mentioned in this report) are immediately available. In the case of nitrogen deleterious materials do not need to be considered; everything depending upon the availability, and here again the highest grade or most concentrated materials, such as nitrate of soda, dried blood and sulphate of ammonia, are the most quickly available, and consequently the best for feeding plants. Garbage, wool waste, etc., are low, both in quantity and quality of nitrogen. Hair and ground leather are also very low in availability, though not so low in total nitrogen. They are the most conspicuous exceptions to the rule in question. Slaughter house materials provide for the most part the wide range of medium grade sources of nitrogen. By far the greater part of the nitrogen shipped into this State is derived from such materials. The availability of the nitrogen in the various animal products is a matter of the greatest concern, for among such products is to be found almost every degree of availability, from the highest to the lowest. The method used in determining the availability of nitrogenous materials is the one that has been in use at this Station for a number of years, and the results, as a rule, agree very well with experience in the field. An availability of 85, and above, is regarded as high, 75 to 85 medium, etc.

In view of the fact that so much of the nitrogen sold in the State is claimed to be derived from "tankage," or other sorts of "animal matter," it is important to have all obtainable data as to what may be expected of such claims at the hands of the manufacturers doing business in this State. In many brands such materials are claimed to be supplemented with other (and as a rule) more quickly available materials. This is true for other brands of some of the companies named below. The following list gives the average availability of the nitrogen found on sale, and claimed (by the manufacturers named) to be derived from bone tankage or other animal matter, except where otherwise stated.

Armour Fertilizer Co.....85.
Jarecki .....80.
Geo. A. Bell.....93.
Piedmont Mt. Airy.....84.
Bowker .....64.
American Agr. Chemical Co. (Stereotyped claim, "Not less than one-tenth from bone tankage, the remainder from base goods, made from animal matter, treated by our own process") .....74.
American Agr. Chemical Co. (Same claim as above, but one-tenth from fish) .....76.
Baugh & Sons Co. (One-half from animal tankage, one-half from garbage) .....75.

An availability of 64. for the Bowker Company's "bone tankage" is simply inexcusably low, three samples out of four falling as low as 59., and giving the Dabney test for ground leather.

The stereotyped claim, "Not less than one-tenth from bone tankage, the remainder from base goods made from animal matter, treated by our own process," will be found many times among the following pages, and it is not a matter for congratulation that the average availability of the nitrogen sold under this claim should be found on the dividing line between the medium and the low grade list.

Of all the losses which a farmer may charge to the use of low grade fertilizers (or avoid if he will) those due to the use of low grade sources of nitrogen are the worst. A poor soil may contain more than 3,000 pounds of nitrogen per acre, and this amount might be doubled and still provide little more than a hundred pounds of immediately available nitrogen per acre. The trouble with the nitrogen in a poor soil is primarily a matter of quality, not of quantity, and this fact should be kept clearly in mind when paying fifteen or twenty cents a pound for nitrogen to be added to the soil.

It would take a hundred and fifty tons of one per cent goods per acre to provide a poor soil with as much ("total") nitrogen as it may already contain in the surface foot alone. Unless the nitrogen in the fertilizer is very much more quickly available than that already in the soil it is simply folly to buy it at any price.

With the hope of increasing the number of brands containing the highest grade sources of nitrogen, the following table has been compiled.

The table (Table III.) gives the names of the manufacturers, the number of registered brands containing nitrogen of some sort and the number in which nitrate of soda, dried blood, sulphate of ammonia or azotin are claimed to be used.

TABLLE III.

NAME OF MANUFACTURER	Number of registered brands containing nitrogen.	Number of brands claiming nitrate of soda, dried blood, sulphate of ammonia or azotin.
American Agricultural Chemical Co	54	none
Armour Fertilizer Works	11	2
Baltimore Pulverizing Co	1	none
Baugh & Sons Co	15	4
Bowker Fertilizer Co	6	1
Bell, Geo. A	1	none
Farmer & Co., W. S	4	none
Griffith & Boyd Co	2	none
Hess, S. M. & Bro	3	1
Hubbard, W. P. & Co	1	none
Jarecki Chemical Co	4	none
Martin, D. B. & Co	10	none
Muskingum Valley Fertilizer Co	3	none
Marietta Bone & Phosphate Co	4	1
Ohio Farmers' Fertilizer Co	5	None
Ober G. & Sons Co	9	6
Pollock Fertilizer Co., The	1	none
Pittsburg Provision & Packing Co	8	5
Piedmont-Mt. Airy Guano Co	13	10
Rasin-Monumental Co.	15	11
Swift & Co	8	5
Thomas, I. P. & Son Co	2	1
Thomas D. A.	4	none
Tuscarora Fertilizer Co	8	4
Virginia-Carolina Chemical Co	11	8
Wooldridge-Orchilla Co., The	6	5
Wooldridge, Robert A	4	none
Wood, T. W. & Sons	5	3

Farmers will get concentrated fertilizers whenever they decline to accept the other kind. By purchasing concentrated fertilizers they will save on the cost of actual plant food, and they will not get low grade nitrogen and potash materials, for the simple reason that a concentrated fertilizer can hardly be compounded from low grade materials. If, for example, garbage is used as the source of nitrgen, 2½ to 3 per cent of nitrogen would be the highest possible figures, and then the fertilizer would consist entirely of garbage; there would be no room for phosphoric acid or potash. A mixture of equal weight of garbage and a 14% acid phosphate would contain 7% phosphoric acid and 1% to 1½% nitrogen. It will be remembered that in order to get 3% of potash (and 356 pounds per ton of chlorine) into a low grade fertilizer the phosphoric acid dropped to 6.20%, while the high grade materials provided for 6% of potash and still left room for 12.58% of available phosphoric acid. Examples might be multiplied almost indefinitely without providing an exception to the rule that *the concentrated high grade fertilizer is the one to buy.*

Every one is familiar with the pictures, so often reproduced in the agricultural papers, and designed to show what may be grown "with fertilizers" and "without fertilizers," containing various constituents of plant food, but pictures showing the effect of garbage and the like, or of six pounds of chlorine to one of potash would be hard to find. With the high grade materials always used in such tests, the results so often shown may easily be duplicated, but a farmer might, for the rest of his days, use some of the low grade stuff that got into this State this year and never know what a good commercial fertilizer could do.

There is in this State a tremendous work for commercial fertilizers to do. It begins with the building up of worn out soils. Such soils have, as a rule, been cropped year after year, as little as possible being added to them or left in them, until the organic matter consists of the more resistent materials which alone could withstand such practices. Such materials, being slow to decompose, can have but a comparatively feeble effect

on the inert mineral constituents of the soils. What such soils need first of all is an abundance of organic matter that will not only yield up within a reasonable time the little plant food it contains, but which, as it decomposes, will enable the plant to draw upon the inert mineral constituents which, even in a poor soil, are usually present in abundance.

Organic matter may, of course, be supplied as stable manure, and there is nothing better for the purpose than well rotted stable manure. It is one of the most powerful soil stimulants known. But worn out soils cannot produce enough of it. To meet this deficiency is the first splendid opportunity for commercial fertilizers. These contain very little organic matter, and the less the better, for organic matter certainly ought to be the last thing to be bought and hauled onto a farm. But high grade commercial fertilizers do contain in the most concentrated and quickly available form the constituents, a comparatively small quantity of which will enable even a poor soil to *grow* a very large amount of organic matter. In no other way can a normal supply of organic matter in the soil be so easily, cheaply, naturally and satisfactorily provided. Farmers should never for a moment lose sight of the fact that it is upon the possibility of drawing upon the soil's inert mineral constituents, that all rational agriculture must ultimately depend, and that in the decomposition of the soils organic matter is to be found the most powerful, the most natural and the only practical method for hastening the availability of these inert materials. The common practice of farming so largely the soil's organic matter until the virgin supply is depleted and then applying from year to year as little commercial fertilizer as possible to meet immediate demands will never build up a soil of any kind. Prescribe, in such practice, the use of low grade fertilizers with their excessive cost and indifferent results, and it is not hard to understand why some farmers become disheartened. The remedy is heavy applications of the highest grade fertilizers as, and for the purpose, above set forth.

It is to be expected that the manufacturers making a specialty of low grade fertilizers will combat any endeavor to encourage the use of better fertilizers, and that they will do everything in their power to discredit our fertilizer law and those responsible for its enforcement, as some of them have been trying to do ever since the law went into effect. It should be remembered that some of them threatened to boycott the State if any attempt should be made to carry out the requirements of our statute as to disclosures of the sorts of inferiority so often referred to in this report. They also promised that failing in the boycott, they would do everything else in their power to smash our statute. But even this is not the hardest sort of opposition that has to be met. The thing which, more than any other, tends to limit the sale of high grade fertilizers and keep up the price of the other kind is the indifferent fertilizer laws in some of the States touching West Virginia. In none of these timid statutes does the *quality* of any constituent except phosphoric acid receive much, if any, attention. High grade sulphate of potash and powder waste, or nitrate of soda and garbage are on the same footing, and no questions are asked except as to the amount. To make matters worse all such materials are *assumed to be of high quality,* and the garbage or the powder waste gets as high a "valuation" as the nitrate of soda or the high grade of sulphate of potash.

This stereotyped assumption as to the quality and value of two-thirds of the constituents of a fertilizer is so weak, indifferent and unfair that further occasion for it should not be tolerated in fertilizer legislation.

If low grade fertilizers must be provided with an advantage it would be immeasurably better to impose a special tax or a fine of a dollar or two per ton on any brand found to be made from high grade materials. The farmer would, of course, have it to pay but he could well afford to pay it, for he would no longer have to assume, or have to have some duly appointed but equally helpless person to assume for him (with the odds against the assumption) he would *know* where to buy the high grade fertilizers.

It is this assumption (that anything not examined is necessarily high grade), that is doubtless responsible for the oft-repeated statement that the valuations are fair as between one fertilizer and another valued on the same schedule; in fact, they are often called "relative commercial values." If all the materials used were indeed high grade, or if they were all of any other one grade such valuations would be relatively fair, but to make such claims in spite of the wide range of materials known to be used, is but to provide another mask for the mischief which official values are so well calculated to work, and another official boost for the low grade fertilizer.

Another familiar appeal for confidence in these unfair figures is the habit of calling attention to the little difference found to have existed between the official valuation and the prices at which the fertilizers were actually sold—as though the same would not have been obserevd for any other figure affixed by statutes presumably enacted for the express purpose of protecting the purchaser.

The price of high grade materials is doubtless used in calculating the valuations in order to avoid too low a figure should any one see fit to use high grade materials, but under such conditions about what per cent of the fertilizers need be expected to contain high grade materials? No credit is given if they do. No fault is found if they do not. High grade materials are necessarily more expensive. The low grade stuff is paraded at the same official value. In a competition so unfair a manufacturer is almost compelled to use some low grade materials in self defense.

No such conditions obtain in this State. A fertilizer gets full credit for whatever it may be. The tendency is towards the best materials and the best values for the money. But note what a handicap is provided by these unfair statutes around us. All along our wandering confines the purchaser sees the unfair values affixed by one State or another, and is the more easily induced to pay an unfair price. Such an obstacle to the fullest realization of what might otherwise so logically be expected of

our statute is not to be overlooked. However, there is reason to believe it will soon be removed.

While some of our farmers near the border have been mislead by their faith in some big State or other across the line, many farmers and agents in these adjoining States have been writing year after year for our fertilizer reports and doubtless profiting by them. That there is growing dissatisfaction with existing statutes in several adjoining States is no secret. The men responsible for the enforcement of these unfair statutes are among the very best in the country, and it is safe to assume would gladly accept the first fighting chance to work under a good law. While in this state one scheme after another has been tried to cripple or discredit our statute, the great State of Kansas follows the great States of California and Georgia in adopting the same quality requirements that have prompted all the oppposition to the West Virginia statute.

In fairness to these old laws, still in force in so many States, and for the most part so unfair, it should be observed that they have always recognized the necessity for making a distinction between the "total" and the "available" phosphoric acid, in other words have always recognized not only the quantity but also the *quality* of this one out of the three constituents with which such statutes have so largely to do. These old statutes have not been in force a great while. And yet within their comparatively brief period of operation a standard of quality has been established for the one constituent in which quality was considered, that leaves little to be desired. The average acid phosphate sold in this State last year contained 15% available and 1% insoluble phosphoric acid, which is another way of saying that the availability of the phosphoric acid in acid phosphates was 94, or equal to that of nitrogen in dried blood. The phosphoric acid used in mixed goods was with few exceptions of high quality. And it would seem to follow logically enough that if the old laws still in force in so many States could be made to include similar recognition of the quality of other constituents it would not be long until a high standard would be established for the quality of all constituents of a fertilizer. It

may be contended that the status of phosphoric acid is not a matter of fertilizer legislation; that the phosphoric acid always was in more reliable shape than the other constituents. Then it will have to be conceded that it is the last constituent that should be selected to receive *all* of the attention. The composition of bones and phosphate rock, the methods of manufacture, convenience and even habit have doubtless contributed to the standard in question, but the composition of the raw materials varies, and it is not a difficult matter to add some untreated ground phosphate rock. If business reasons alone preclude such additions, why don't they cut out the garbage and ground leather?

A high standard for other constituents than phosphoric acid will be established and maintained whenever these receive their share of the attention now devoted to the phosphoric acid alone.

Meanwhile the thing for farmers in this State to remember is that there are plenty of most excellent fertilizers of all classes and for all purposes regularly on sale in this State, as the following pages show, and that it pays to use that kind.

RESULTS OF THE INSPECTION OF COMMERICIAL FERTILIZERS FOR 1907.

THE AMERICAN AGRICULTURAL CHEMICAL CO.,

No. 26 Broadway, New York, and No. 711 Equitable Building, Baltimore, Md.

5815. A. A. C. Co.'s Big Crop Phosphate. W. S. Corrothers, Agent, Little Falls, W. Va. Guarantee: Phosphoric acid, soluble 6; reverted, 2; insoluble, 1; total, 9; available, 8; potash, 5; phosphoric acid from dissolved phosphate rock; potash from ¼ to ¾ muriate of potash, ¼ to ¾ manure salts. Found: Phosphoric acid, soluble, 5.32; reverted, 3.05; insoluble, 0.70; total, 9.07; available, 8.37; potash, 5.25; chlorine, 2.9.

Remark: Chlorine excessive; source of potash equivalent to kainit.

5873. A. A. C. Co's Big Crop Phosphate. Johnson & Gwinn, Agent, Alderson, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 4.25; reverted, 2.26; insoluble, 0.64; total, 7.15; available, 6.51; potash, 5.43; chlorine, 2.6.

Remark: Chlorine excessive; source of potash equivalent to kainit.

5897. A. A. C. Co's Big Crop Phosphate. Parley De Berry, Agent, Terra Alta, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 4.96; reverted, 3.07; insoluble, 0.67; total, 8.70; available, 8.03; potash, 4.99; chlorine, 2.9.

Remark: Chlorine excessive; source of potash equivalent to kainit.

5869. A. A. C. Co's Big Crop Phosphate. J. W. Hedrick, Agent, Alderson, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 4.43; reverted, 3.06; insoluble, 0.26; total, 7.75; available, 7.49; potash, 5.51; chlorine, 2.5.

Remark: Chlorine excessive; source of potash equivalent to kainit.

5889. A. A. C. Co.'s Genuine German Kainit. Washington & Alexander, Agent, Charles Town, W. Va. Guarantee: Potash, 12. Found: Potash, 12.44; chlorine, 3.6.

5896. A. A. C. Co.'s Gem Alkaline Phosphate. Parley De Berry, Agent, Terra Alta, W. Va. Guarantee: Phosphoric acid, soluble, 4; reverted, 2; insoluble, 1; total, 7; available, 6; potash, 3; phosphoric acid from dissolved phosphate rock; potash, ¼ to ¾ from manure salt, ¼ to ¾ from kainit. Found: Phosphoric acid, soluble, 1.79; reverted, 5.23; insoluble, 0.95; total, 7.97; available, 7.02; potash, 3.27; chlorine, 2.6.

5973. A. A. C. Co.' Gem Alkaline Phosphate. Siever Hardware Company, Agent, Keyser, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 3.48; reverted, 4.53; insoluble, 1.25; total, 9.26; available, 8.01; potash, 2.98; chlorine, 2.4.

5987. A. A. C. Co.'s Gem Alkaline Phosphate. Siever Hardware Co., Agent, Keyser, W. Va. Guarantee: (As above).

Found: Phosphoric acid, soluble, 1.66; reverted, 4.85; insoluble, 1.19; total, 7.70; available, 6.51; potash, 3.24; chlorine, 5.5.

Remark: Chlorine excessive. Source of potash very low grade.

5870. A. A. C. Co.'s Corn, Oats and Buckwheat Fertilizer. J. W. Hedrick, Agent, Alderson, W. Va. Guarantee: Phosphoric acid, soluble, 4; insoluble, 1; reverted, 2; total, 7; available, 6; phosphoric acid from dissolved phosphate rock; potash, ¼ to ¾ from manure salt, ¼ to ¾ from kainit. Found: Phosphoric acid, soluble, 3.61; reverted, 2.85; insoluble, 0.33; total, 6.79; available, 6.46; potash, 3.62; chlorine, 3.5.

Remark: Chlorine excessive.

5902. A. A. C. Co's Regular Corn Fertilizer. L. W. Wilson & Co., Agent, Terra Alta, W. Va. Guarantee: Phosphoric acid, soluble, 4; reverted, 2; insoluble, 1; total, 7; available, 6; potash, 3; phosphoric acid from dissolved phosphate rock; potash, ¼ to ¾ from manure salts, ¼ to ¾ from kainit. Found: Phosphoric acid, soluble, 1.48; reverted, 4.72; insoluble, 0.68; total, 6.88; available, 6.20; potash, 3.68; chlorine, 2.0.

5916. A. A. C. Co's Regular Corn Fertilizer, Cicero Phillips, Agent, Belington, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 2.38; reverted, 5.12; insoluble, 0.59; total, 8.09; available, 7.50; potash, 2.86; chlorine, 1.9.

5804. A. A. C. Co's Fine Ground Bone. C. R. Carmen, Agent, Wellsburg, W. Va. Guarantee: Phosphoric acid, total, 22.80; nitrogen, 2.47; phosphoric acid from animal bone, nitrogen from animal bone. Found: Phosphoric acid, total, 21.97; nitrogen, 2.42; availability of nitrogen, 93.

5893. A. A. C. Co's Pure Ground Bone. Washington & Alexander, Agent, Charles Town, W. Va. Guarantee: Phosphoric acid, total, 20.60; nitrogen, 3.30. Found: Phosphoric acid, total, 21.51; nitrogen, 3.37; availability of nitrogen, 78.

5986. A. A. C. Co's Bone Meal. Siever Hardware Company, Agent, Keyser, W. Va. Guarantee: Phosphoric acid, total, 13.75; nitrogen, 1.65; phosphoric acid from animal bone; nitro-

gen from animal bone. Found: Phosphoric acid, total, 13.32; nitrogen, 1.71; availability of nitrogen, 83.

5871. Bradley's Niagara Phosphate J. W. Hedrick, Agent, Alderson, W. Va. Guarantee: Phosphoric acid, soluble, 5; reverted, 2; insoluble, 1; total, 8; available, 7; nitrogen, .82; potash, 1; phosphoric acid from dissolved animal bone and dissolved phosphate rock; potash from kainit; nitrogen not less than one-tenth from bone tankage, the remainder form base goods, made from animal matter, treated by our own process. Found: Phosphoric acid, soluble, 3.97 reverted, 3.51; insoluble, 0.96; total, 8.44; available, 7.48; nitrogen, 0.73; potash, 1.46; availability of nitrogen, 71; chlorine, 2.9.

5806. Bradley's Bean and Potato Phosphate. O. R. Carmen, Agent, Wellsburg, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 4; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than one-tenth from bone tankage, the remainder from base goods made from animal matter, treated by our own process; potash, ¼ to ¾ from manure salts, ¼ to ¾ from kainit. Found: Phosphoric acid, soluble, 5.68; reverted, 3.09; insoluble, 1.78; total, 10.55; available, 8.77; nitrogen, 0.87; potash, 4.81; availability of nitrogen, 79; chlorine, 1.1.

Remark: Source of potash better than guaranteed.

5872. Bradley's Bean and Potato Phosphate. J. W. Hedrick, Agent, Alderson, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 4.12; reverted, 3.98; insoluble, 1.14; total, 9.24; available, 8.10; nitrogen, 0.79; potash, 4.68; availability of nitrogen, 82; chlorine, 2.5.

5868. Bradley's Soluble Dissolved Bone. J. W. Hedrick, Agent, Alderson, W. Va. Guarantee: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from dissolved phosphate rock. Found: Phosphoric acid, soluble, 11.77; reverted, 3.73; insoluble, 0.49; total, 15.99; available, 15.50.

5829. Canton Chemical Potato and Tobacco Manure. J. M. Hagerty, Agent, Farmington, W. Va. Guarantee: Phosphoric

acid, soluble, 4; reverted, 2; insoluble, 1: total, 7; available, 6; nitrogen, 1.24; potash, 5; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than one-tenth from bone tankage, the remainder from base goods, made from animal matter, treated by our own process; potash, ¼ to ¾ from manure salt and ¼ to ¾ from kainit. Found: Phosphoric acid, soluble, 3.71; reverted, 3.88; insoluble, 1.02; total, 8.61; available, 7.59; nitrogen, 1.64; potash, 5.25; availability of nitrogen, 82; chlorine, 1.6.

Remark: Source of potash better than guaranteed.

5942. Canton Chemical Potato and Tobacco Manure. J. M. Miller, Agent, Ronceverte, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 5.60; reverted, 1.53; insoluble, 0.41; total, 7.54; available, 7.13; nitrogen, 1.07; potash, 4.50; availability of nitrogen, 83; chlorine, 2.1.

Remark: Potash low. Nitrogen low.

5890. Canton Chemical Potato and Tobacco Manure. Washington & Alexander, Agent, Charles Town, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 3.38; reverted, 3.36; insoluble, 1.20; total, 7.94; available, 6.74; nitrogen, 1.52; potash, 4.86; availability of nitrogen, 85; chlorine, 2.9.

Remark: Chlorine high; source of potash equivalent to kainit alone.

5830. Canton Chemical Baker's Dissolved S. C. Bone. J. M. Hagerty, Agent, Farmington, W. Va. Guarantee: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from dissolved phosphate rock. Found: Phosphoric acid, soluble, 11.73; reverted, 4.21; insoluble, 0.95; total, 16.89; available, 15.94.

5892. Canton Chemical Baker's Dissolved S. C. Bone. Washington & Alexander, Agent, Charles Town, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 10.64; reverted, 4.62; insoluble, 0.86; total, 16.12; available, 15.26.

5949. Canton Chemical Baker's Dissolved S. C. Bone. Upshur Grocery Company, Agent, Buckhannon, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 9.26; reverted, 5.80; insoluble, 1.01; total, 16.07; available, 15.06.

5989. Canton Chemical Baker's Dissolved S. C. Bone. Siever Hardware Company, Agent, Keyser, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 9.93; reverted, 4.17; insoluble, 0.92; total, 15.02; available, 14.10.

5828. Canton Chemical Baker's Special Wheat, Corn and Grass Mixture. J. M. Hagerty, Agent, Farmington, W. Va. Guarantee: Phosphoric acid, soluble, 7; reverted, 2; insoluble, 1; total, 10; available, 9; nitorgen, 0.82; potash, 2; phosphoric acid from dissolved phosphate rock; nitrogen not less than one-tenth from bone tankage, the remainder from base goods, made from animal matter, treated by our own process; potash from kainit. Found: Phosphoric acid, soluble, 4.96; insoluble, 1.19; total, 10.31; available, 9.12; nitrogen, 0.77; potash, 1.92; availability of nitrogen, 57; chlorine, 3.5.

Remark: Chlorine excessive. Source of nitrogen equivalent to garbage.

5937. Canton Chemical Baker's Special Wheat, Corn and Grass Mixture. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 7.19; reverted, 2.35; insoluble, 0.72; total, 10.26; available, 9.54; nitorgen, 0.76; potash, 1.97; availability of nitrogen, 75; chlorine, 2.8.

5988. Canton Chemical Soluble Bone and Potash Siever Hardware Company, Agent, Keyser, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from dissolved phosphate rock; potash from kainit. Found: Phosphoric acid, soluble, 6.22; reverted, 3.70; insoluble, 0.74; total, 10.66; available, 9.92; potash, 2.08; chlorine, 4.1.

Remark: Chlorine excessive. Source of potash equivalent to carnallit or very low grade kainit.

5827. Canton Chemical Harrow Brand Crop Grower. J. M. Hagerty, Agent, Farmington, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 1; phosphoric acid from dissolved animal bone and dissolved phosphate rock, nitrogen not less than one-tenth from bone tankage, the remainder from base goods,

made from animal matter treated by our own process, potash from kainit. Found: Phosphoric acid, soluble, 2.79; reverted, 5.21; insoluble, 1.38; total, 9.38; available, 8.00; nitrogen, 1.06; potash, 1.28; availability of nitrogen, 60; chlorine, 3.8.

Remark: Chlorine excessive. Source of potash equivalent to carnallit or other low grade material. Source of nitrogen equivalent to garbage.

5881. Cleveland Dryer Horsehead Phosphate, With Potash. West Charleston Feed Company, Agent, Charleston, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from dissolved phosphate rock; potash from kainit. Found: Phosphoric acid, soluble, 4.12; reverted, 5.68; insoluble, 3.33; total, 13.13; available, 9.80; potash, 2.07; chlorine, 1.

Remark: Source of potash better than guaranteed.

5817. Detrick's Quickstep Bone Phosphate. W. S. Corrothers, Agent, Little Falls, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 2.47; potash 4; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than one-tenth from bone tankage, not less than one-tenth from fish, the remainder from base goods made from animal matter, treated by our own process; potash from muriate of potash. Found: Phosphoric acid, soluble, 6.10; reverted, 3.43; insoluble, 1.00; total, 10.53; available, 9.53; nitrogen, 2.66; potash, 4.29; availability of nitrogen, 85; chlorine, 1.6.

Remark: Chlorine excessive. Source of potash equivalent to low grade muriate.

5903. Detrick's Dissolved S. C. Bone. L. W. Wilson & Co., Agent. Terra Alta, W. Va. Guarantee: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from dissolved phosphate rock. Found: Phosphoric acid, soluble, 9.11; reverted, 5.84; insoluble, 1.09; total, 16.04; available, 14.95.

5816. Detrick's Corn and Oats Fertilizer. W. S. Corrothers, Agent, Little Falls, W. Va. Guarantee: Phosphoric acid soluble, 7; reverted, 2; insoluble, 1; total, 10; available, 9;

nitrogen, 0.82; potash, 3; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than one-tenth from bone tankage, the remainder from base goods, made from animal matter, treated by our own process; potash, ¼ to ¾ from manure salt and ¼ to ¾ from kainit. Found: Phosphoric acid, soluble, 8.17; reverted, 3.14; insoluble, 1.10; total, 12.41; available, 11.31; nitrogen, 1.15; potash, 2.85; availability of nitrogen, 81; chlorine, 2.1.

5900. Detrick's Corn and Oats Fertilizer. L. W. Wilson & Co., Agent, Terra Alta, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 7.55; reverted, 3.19; insoluble, 1.11; total, 11.85; available, 10.74; nitrogen, 0.99; potash, 3.22; availability of nitrogen, 79; chlorine, 1.9.

5936. Detrick's Corn and Oats Fertilizer. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 6.68; reverted, 3.32; insoluble, 0.95; total, 10.95; available, 10.00; nitrogen, 0.84; potash, 3.15; availability of nitrogen, 77; chlorine, 2.6.

5818. Detrick's Soluble Bone Phosphate and Potash. W. S. Corrothers, Agent, Little Falls, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from dissolved phosphate rock; potash from kainit. Found: Phosphoric acid, soluble, 7.22; reverted, 3.00; insoluble, 0.95; total, 11.17; available, 10.22; potash, 2.20; chlorine, 2.7.

5814. Detrick's Kangaroo Komplete Kompound. W. S. Corrothers, Agent, Little Falls, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 1.65; potash, 3; phosphoric acid, from dissolved animal bone and dissolved phosphate rock; nitrogen, not less than one-tenth from bone tankage, not less than one-tenth from fish, the remainder form base goods made from animal matter, treated by our own process; potash, ¼ to ¾ from manure salt and ¼ to ¾ from kainit. Found: Phosphoric acid, soluble, 5.35; reverted, 3.71; insoluble, 1.34; total, 9.40; available, 8.06; nitrogen, 1.76; potash, 3.17; availability of nitrogen, 74; chlorine, 2.7.

5879. Detrick's Kangaroo Komplete Kompound. W. H. McCallister, Agent, Hurricane, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 3.71; reverted, 4.87; insoluble, 2.24; total, 10.82; available, 8.56; nitrogen, 1.74; potash, 2.98; availability of nitrogen, 82; chlorine, 1.0.

Remark: Source of potash better than guaranteed.

5935. Detrick's Kangaroo Komplete Kompound. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 5.25; reverted, 3.65; insoluble, 1.07; total, 9.97; available, 8.90; nitrogen, 1.61; potash, 3.59; availability of nitrogen, 88; chlorine, 2.1.

5904. Detrick's Standard Potash Fertilizer. L. W. Wilson & Company, Agent, Terra Alta, W. Va. Guarantee: Phosphoric acid, soluble, 4; reverted, 2; insoluble, 1; total, 7; available, 6; nitrogen, 1.24; potash, 5; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than one-tenth from bone tankage, not less than one-tenth from fish, the remainder from base goods, made from animal matter, treated by our own process; potash, ¼ to ¾ from manure sale and ½ to ¾ from kainit. Found: Phosphoric acid, soluble, 4.07; reverted, 3.38; insoluble, 0.60; total, 8.05; available, 7.45; nitrogen, 1.34; potash, 5.03; availability of nitrogen, 82; chlorine, 1.8.

5813. Detrick's Paragon Ammoniated Bone Phosphate and Potash. W. S. Corrothers, Agent, Little Falls, W. Va. Guarantee: Phosphoric acid, soluble, 5; reverted, 2; insoluble, 1; total, 8; available, 7; nitrogen, 0.82; potash, 1; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than one-tenth from bone tankage, the remainder from base goods made from animal matter, treated by our own process; potash from kainit. Found: Phosphoric acid, soluble, 6.22; reverted, 3.50; insoluble, 1.50; total, 11.22; available, 9.72; nitrogen, 1.21; potash, 1.19; availability of nitrogen, 77; chlorine, 2.9.

5824. Great Eastern Corn Fertilizer. Farmington Mill Company, Agent, Farmington, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8;

nitrogen, 0.82; potash, 4; phosphate acid, from dissolved animal bone and dissolved phosphate rock; nitrogen not less than one-tenth from bone tankage, the remainder from base goods, made from animal matter treated by our own process; potash, ¼ to ¾ from manure salts, ¼ to ¾ from kainit. Found: Phosphoric acid, soluble, 5.69; reverted, 2.70; insoluble, 1.29; total, 9.68; available, 8.39; nitrogen, 0.94; potash, 4.13; availability of nitrogen, 84; chlorine, 2.0.

5922. Great Eastern Corn Fertilizer. Draper England, Agent, Belington, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 5.01; reverted, 3.00; insoluble, 1.15; total, 9.16; available, 8.01; nitrogen, 0.87; potash, 4.14; availability of nitrogen, 68; chlorine, 2.3.

Remark: Availability of nitrogen low.

5943. Great Eastern Corn Fertilizer. J. D. Anderson, Agent, Ronceverte, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 3.86; reverted, 4.25; insoluble, 1.13; total, 9.24; available, 8.11; nitrogen, 0.81; potash, 4.24; availability of nitrogen, 75; chlorine, 2.5.

5945. Great Eastern Vegetable, Vine and Tobacco. J. D. Anderson, Agent, Ronceverte, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 2.05; potash, 3; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than one-tenth from bone tankage, not less than one-tenth from fish, the remainder from base goods, made from animal matter, treated by our own process; potash, ¼ to ¾ from manure salt, and ¼ to ¾ from kainit. Found: Phosphoric acid, soluble, 4.76; reverted, 3.82; insoluble, 1.30; total, 9.88; available, 8.58; nitrogen, 1.84; potash, 3.38; availability of nitrogen, 84; chlorine, 2.4.

Remark: Nitrogen low.

5944. Great Eastern High Grade Bone and Potash. J. D. Anderson, Agent, Ronceverte, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 2; total, 12; available, 10; potash, 5; phosphoric acid from dissolved phosphate rock; potash ¼ to ¾ from muriate of potash, ¼ to ¾ from manure salts.

Found. Phosphoric acid, soluble, 7.47; reverted, 2.93; insoluble, 0.73; total, 11.13; available, 10.40; potash, 4.60; chlorine, 1.5.

Remark: Potash low.

5825. Great Eastern High Grade Bone and Potash. Farmington Mill Company, Agent, Farmington, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 6.36; reverted, 4.12; insoluble, 0.93; total, 11.41; available, 10.48; potash, 5.23; chlorine, 2.4.

Remark: Chlorine high.

5921. Great Eastern High Grade Bone and Potash. Draper England, Agent, Belington, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 5.09; reverted, 4.36; insoluble, 0.82; total, 10.27; available, 9.45; potash, 4.99; chlorine, 2.5.

Remark: Chlorine high.

5826. Great Eastern Japanese Wheat Grower. Farmington Mill Co., Agent, Farmington, W. Va. Guarantee: Phosphoric acid, soluble, 4.50; reverted, 1.50; insoluble, 1; total, 7; available, 6; potash, 3; phosphoric acid from dissolved phosphate rock; potash, ¼ to ¾ from manure salt, ¼ to ¾ from kainit. Found: Phosphoric acid, soluble, 2.85; reverted, 3.63; insoluble, 0.52; total, 7.00 available, 6.48; potash, 3.47; chlorine, 6.0.

Remark. Chlorine excessive. Source of potash very low grade. (See Table I).

5982. Great Eastern Japanese Wheat Grower. G. P. Phillips, Agent, Berkley Springs, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 1.79; reverted, 4.70; insoluble, 0.51; total, 7.00; available, 6.49; potash, 3.18; chlorine, 6.0.

Remark: Chlorine excessive. Source of potash very low grade. (See Table I).

5915. Great Eastern Dissolved Bone. Draper England, Agent, Belington, W. Va. Guarantee: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 2; total, 16; available, 14; phosphoric acid from dissolved phosphate rock. Found: Phosphoric acid,

soluble, 10.87; reverted, 4.35; insoluble, 0.87; total, 16.09; available, 15.22.

5886. Lazaretto High Grade Dissolved Bone and Potash. A. G. Chrislip, Agent, Philippi, W. Va. Guarantee: Phosphoric acid, soluble, 10; reverted, 2; insoluble, 1; total, 13; available, 12; potash, 5; phosphoric acid from dissolved phosphate rock; potash from muriate of potash. Found: Phosphoric acid, soluble, 8.83; reverted, 3.57; insoluble, 0.88; total, 13.28; available, 12.40; potash, 5.00; chlorine, 2.1.

Remark. Chlorine excessive. Source of potash equivalent to manure salts.

5965. Lazaretto Special Potato and Tobacco and Fertilizer. T. B. Drummond & Co., Agent, Buckhannon, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 4; phosphoric acid from dissolved animal bone and dissolved phosphate rock; potash, ¼ to ¾ from manure salt, ¼ to ¾ from kainit; nitrogen, not less than one-tenth from bone tankage, the remainder from base goods, made from animal matter, treated by our own process. Found: Phosphoric acid, soluble, 4.63; reverted, 3.77; insoluble, 1.19; total, 9.59; available, 8.40; nitrogen, 1.02; potash, 4.51; availability of nitrogen, 63; chlorine, 2.3.

Remark: Availability of nitrogen indicates low grade materials. Garbage will often show higher availability.

5955. Maryland Ammoniated Bone. J. L. Woodyard, Pruntytown, W. Va, Agent. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 1.65; potash, 3; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than one-tenth from bone tankage; not less than one-tenth from fish, the remainder from base goods, made from animal matter treated by our own process; potash, ¼ to ¾ from manure salts, ¼ to ¾ from kainit. Found: Phosphoric acid, soluble, 4.87; reverted, 3.03; insoluble, 1.00; total, 8.90; available, 7.90; nitrogen, 1.63; potash, 2.84; availability of nitrogen, 81; chlorine, 2.8.

5954. Maryland Bono Superphosphate. J. L. Woodyard, Agent, Pruntytown, W. Va. Guarantee: Phosphoric acid,

soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid, from dissolved phosphate rock; potash from kainit. Found: Phosphoric acid, soluble, 6.04; reverted, 3.69; insoluble, 0.84; total, 10.57; available, 9.73; potash, 2.00; chlorine, 3.0.

5956. Maryland O. K. Ammoniated. J. L. Woodyard, Agent, Pruntytown, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 2; phosphoric acid from dissolved animal bone and dissolved phosphate rock, nitrogen not less than one-tenth from bone tankage; the remainder from base goods, made from animal matter, treated by our own process; potash, from kainit. Found: Phosphoric acid, soluble, 4.63; reverted, 3.40; insoluble, 1.00; total, 9.03; available, 8.03; nitrogen, 0.81; potash, 2.39; availability of nitrogen, 66; chlorine, 2.9.

Remark: Availability of nitrogen low.

5946. M. E. Wheeler & Co.'s Potato Manure. J. D. Anderson, Agent, Ronecverte, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 2.05; potash, 3; phosphoric acid from dissolved animal bone and dissolved phosphate rock; potash, ¼ to ¾ from manure salt and ¼ to ¾ from kainit; nitrogen not less than one-tenth from bone tankage, not less than one-tenth from fish, the remainder from base goods, made from animal matter treated by our own process. Found: Phosphoric acid, soluble, 4.76; reverted, 3.74; insoluble, 1.27; total, 9.77; available, 8.50; nitrogen, 1.82; potash, 3.52; availability of nitrogen, 82; chlorine, 2.5.

5993. Williams & Clark's Dissolved Bone and Potash. W. R. Dudley, Agent, Wheeling, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from dissolved phosphate rock, potash from kainit. Found: Phosphoric acid, soluble, 3.17; reverted, 5.57; insoluble, 2.39; total, 11.13; available, 8.74; potash, 1.88; chlorine, 2.6.

Remark: Phosphoric acid low.

5882. Williams & Clark's Dissolved Bone and Potash. A. G. Chrislip, Agent, Philippi, W. Va. Guarantee: (As above).

Found: Phosphoric acid, soluble, 6.17; reverted, 4.28; insoluble, 1.60; total, 12.05; available, 10.45; potash, 2.37; chlorine, 2.7.

5885. Williams & Clark's Good Grower Potato Phosphate. A. G. Chrislip, Agent, Philippi, W. Va. Guarantee: Phosphoric acid, soluble, 4; reverted, 2; insoluble, 1; total, 7; available, 6; nitrogen, 1.24; potash, 5; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen, not less than one-tenth from bone tankage, not less than one-tenth from fish, the remainder from base goods, made from animal matter treated by our own proces; potash, ¼ to ¾ from manure salt, ¼ to ¾ from kainit. Found: Phosphoric acid, soluble, 3.40; reverted, 3.36; insoluble, 0.99; total, 7.75; available, 6.76; nitrogen, 1.47; potash, 4.96; availability of nitrogen, 80; chlorine, 1.4.

Remark: Source of potash better than guaranteed.

5805. Williams & Clark's Royal Bone Phosphate. Orie Carmen, Agent, Wellsburg, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 1.03; potash, 2; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen, not less than one-tenth from bone tankage, not less than one-tenth from fish, the remainder from base goods, and made from animal manner, treated by our own process; potash from kainit. Found: Phosphoric acid, soluble, 5.42; reverted, 3.61; insoluble, 1.82; total, 10.85; available, 9.03; nitrogen, 1.04; potash, 1.96; availability of nitrogen, 75; chlorine, 1.5.

Remark: Source of potash better than guaranteed.

5990. Williams & Clark's Royal Bone Phosphate. O. R. Carmen, Agent, Wellsburg, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 4.68; reverted, 3.46; insoluble, 1.19; total, 9.33; available, 8.14; nitrogen, 0.89; potash, 2.54; availability of nitrogen, 85; chlorene, 1.8.

Remark: Nitrogen low. Source of potash better than guaranteed.

5883. Williams & Clark's Prolific Crop Producer. A. G. Chrislip, Agent, Philippi, W. Va. Guarantee: Phosphoric acid, soluble, 5; reverted, 2; insoluble, 1; total, 8; available, 7;

nitrogen, 0.82; potash, 1; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen, not less than one-tenth from bone tankage, the remainder from base goods, made from animal matter treated by our own process; potash from kainit. Found: Phosphoric acid, soluble, 3.61; reverted, 3.77; insoluble, 1.04; total, 8.42; available, 7.38; nitrogen, 1.09; potash, 1.32; availability of nitrogen, 79; chlorine, 6.7.

Remark: Chlorine excessive. (See remark on Table I. and note that this 6.7 pounds of chlorine for every pound of actual potash was found in a sample of the same brand, sold under same guarantee as the sample reported in the next paragraph).

5992. Williams & Clark's Prolific Producer. W. R. Dudley, Agent, Wheeling, W. Va. Guarantee (As above). Found: Phosphoric acid, soluble, 3.20; reverted, 4.44; insoluble, 2.03; total, 9.67; available, 7.64; nitrogen, 0.98; potash, 1.20; availability of nitrogen, 79; chlorine, 2.1.

5884. Williams & Clark's Acorn Acid Phosphate. A. G. Chrislip, Agent, Philippi, W. Va. Guarantee: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from dissolved phosphate rock. Found: Phosphoric acid, soluble, 8.49; reverted, 6.59; insoluble, 1.04; total, 16.12; available, 15.08.

5891. W. & A. Regular Corn Mixture. Washington & Alexander, Agent, Charles Town, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 3; phosphoric acid from dissolved phosphate rock; potash, ¼ to ¾ from manure salt, ¼ to ¾ from kainit. Found: Phosphoric acid, soluble, 6.60; reverted, 4.27; insoluble, 0.87; total, 11.74; available, 10.87; potash, 4.11; chlorine, 2.8.

5809. Zell's Little Giant. Benson Jacobs, Agent, Little Falls, W. Va. Guarantee: Phosphoric acid, soluble, 5; reverted, 2; insoluble, 1; total, 8; available, 7; nitrogen, 0.82; potash, 1; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen, not less than one-tenth from bone tankage, the remainder from base goods, made from animal matter,

treated by our own process; potash from kainit. Found: Phosphoric acid, soluble, 6.04; reverted, 2.35; insoluble, 1.14; total, 9.53; available, 8.39; nitrogen, 1.09; potash, 1.62; availability of nitrogen, 68; chlorine, 3.3.

Remark: Chlorine excessive. Availability of nitrogen low.

5895. Zell's Little Giant. Parley de Berry, Agent, Terra Alta, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 5.40; reverted, 3.78; insoluble, 1.39; total, 10.57; available, 9.18; nitrogen, 1.12; potash, 1.43; availability of nitrogen, 71; chlorine, 2.9.

5913. Zell's Little Giant. Cicero Phillips, Agent, Belington, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 3.45; reverted, 3.63; insoluble, 1.02; total, 8.10; available, 7.08; nitrogen, 0.89; potash, 1.08; availability of nitrogen, 72; chlorine, 7.6.

Remark: Chlorine excessive. Source of potash very low grade. (See Table I).

5914. Zell's Little Giant. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 3.74; reverted, 3.84; insoluble, 1.02; total, 8.60; available, 7.58; nitrogen, 0.83; potash, 1.44; availability of nitrogen, 72; chlorine, 2.7.

5803. Zell's Economizer Phosphate. C. R. Carmen, Agent, Wellsburg, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 2; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than one-tenth from bone tankage, the remainder from base goods, made from animal matter treated by our own process; potash from kainit. Found: Phosphoric acid, soluble, 5.37; reverted, 3.58; insoluble, 1.09; total, 10.04; available, 8.95; nitrogen, 0.94; potash, 2.19; availability of nitrogen, 76; chlorine, 2.1.

5874. Zell's Economizer Phosphate. Johnson & Gwinn, Agent, Alderson, W. Va. Guarantee: (As above). Found:

Phosphoric acid, soluble, 3.68; reverted, 4.23; insoluble, 1.36; total, 9.27; available, 7.91; nitrogen, 0.86; potash, 2.31; availability of nitrogen, 69; chlorine, 6.7.

Remark: Chlorine excessive. (See Table I.). Compare preceding sample sold under same guarantee. Availability of nitrogen low.

5807. Zell's Dissolved Bone Phosphate. Benson Jacobs, Agent, Little Falls, W. Va. Guarantee: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from dissolved phosphate rock. Found: Phosphoric acid, soluble, 11.14; reverted, 4.20; insoluble, 1.04; total, 16.38; available, 15.34.

5875. Zell's Dissolved Bone Phosphate. Johnson & Gwinn, Agent, Alderson, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 8.16; reverted, 6.60; insoluble, 1.23; total, 15.99; available, 14.76.

5919. Zell's Dissolved Bone Phosphate. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 10.59; reverted, 4.93; insoluble, 1.09; total, 16.61; available, 15.52.

5810. Zell's Dissolved S. C. Phosphate. Benson Jacobs, Agent, Little Falls, W. Va. Guarantee: Phosphoric acid, soluble, 10; reverted, 2; insoluble, 1; total, 13; available, 12; phosphoric acid from dissolved phosphate rock. Found: Phosphoric acid, soluble, 5.01; reverted, 8.44; insoluble, 1.43; total, 14.88; available, 13.45.

5894. Zell's Dissolved S. C. Phosphate. Parley De Berry, Agent, Terra Alta, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 7.04; reverted, 6.08; insoluble, 1.32; total, 14.44; available, 13.12.

5808. Zell's Electric Phosphate. Benson Jacobs, Agent, Little Falls, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from dissolved phosphate rock; potash from kainit.

Found: Phosphoric acid, soluble, 7.32; reverted, 3.23; insoluble, 0.93; total, 11.48; available, 10.55; potash, 2.19; chlorine, 2.9.

5914. Zell's Electric Phosphate. Cicero Phillips, Agent, Little Falls, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 7.16; reverted, 2.67; insoluble, 1.01; total, 10.84; available, 9.83; potash, 2.17; chlorine, 6.3.

Remark: Chlorine excessive. Source of potash very low grade. (See Table I).

5898. Zell's Special Compound For Potatotes and Vegetables. Parley De Berry, Agent, Terra Alta, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 2.47; potash, 4; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than one-tenth from bone tankage, not less than one-tenth from fish, the remainder from base goods, made from animal matter, treated by our own process, potash from muriate of potash. Found: Phosphoric acid, soluble, 5.53; reverted, 3.33; insoluble, 1.39; total, 10.25; available, 8.86; nitrogen, 2.73; potash, 4.50; availability of nitrogen, 87; chlorine, 1.3.

Remark: Too much chlorine except for low grade variety of material claimed.

5971. Zell's Special Compound For Potatoes and Vegetables. J. L. Woodyard, Agent, Pruntytown, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 5.78; reverted, 3.34; insoluble, 1.06; total, 10.18; available, 9.12; nitrogen, 2.42; potash, 3.84; availability of nitrogen, 90; chlorine, 1.4.

Remark: Too much chlorine for high or medium grade muriate.

5910. Zell's Ammoniated Bone Superphosphate. R. Hunter, Agent, Berkeley Springs, W. Va. Guaranteed: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 1.65; potash, 2; phosphoric acid from dissolved animal bone and dissolved phosphate rock; nitrogen not less than one-tenth from fish, not less than one-tenth from bone tankage, the remainder from base goods, made from animal matter,

treated by our own process; potash from kainit. Found: Phosphoric acid, soluble, 3.63; reverted, 4.22; insoluble, 1.71; total, 9.56; available, 7.85; nitrogen, 1.80; potash, 2.09; availability of nitrogen, 84; chlorine, 4.0.

Remark: Chlorine excessive. Source of potash equivalent to carnallit or other low grade materials.

ARMOUR FERTILIZER WORKS.

Baltimore, Maryland.

5959. Star Phosphate. J. W. Gans, Agent, Grafton, W. Va. Guarantee: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from acid phosphate. Found: Phosphoric acid, soluble, 11.72; reverted, 4.26; insoluble, 0.83; total, 16.81; available, 15.98.

5978. Star Phosphate. R. N. Stewart & Son, Agent, Martinsburg, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 13.84; reverted, 2.50; insoluble, 0.29; total, 16.63; available, 16.34.

6003. Star Phosphate. R. N. Stewart & Son, Agent, Martinsburg, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 13.20; reverted, 2.21; insoluble, 0.18; total, 15.59; available, 15.41.

6001. Phosphate and Potash No. 1. R. N. Stewart & Son, Agent, Martinsburg, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 2; total, 12; available, 10; potash, 2; phosphoric acid from acid phosphate; potash from kainit. Found: Phosphoric acid, soluble, 7.33; reverted, 2.38; insoluble, 0.60; total, 10.31; available, 9.71; potash, 2.32; chlorine, 3.0.

Remark: Phosphoric acid low.

5963. Royal Ammoniated Bone. J. W. Gans, Agent, Grafton, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 4; phosphoric acid, from 1/5 to 2/5 bones, 2/5 to 3/5 acid phosphate, nitrogen 1/5 to 3/5 from bone tankage, 2/5 to 3/5 from bone meal; potash, 1/3 to 2/3 from kainit, 1/3 to 2/3 from muriate. Found: Phosphoric acid, soluble, 5.12; reverted, 3.23; insoluble, 0.63; total, 8.98; available, 8.35; nitrogen, 0.81; potash, 4.36; availability of nitrogen, 66; chlorine, 2.5.

Remark: Chlorine high. Availability of nitrogen low.

5970. Phosphate and Potash No. 2. J. W. Gans, Agent, Grafton, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; potash, 5; phosphoric acid from acid phosphate, potash 1/5 to 2/5 from kainit, 2/5 to 3/5 from muriate of potash. Found: Phosphoric acid, soluble, 6.14; reverted, 1.49; insoluble, 0.38; total, 8.01; available, 7.63; potash, 4.92; chlorine, 3.3.

Remark: Chlorine excessive. Source of potash not equal to high grade kainit alone.

5999. Phosphate and Potash No. 2. R. N. Stewart & Son, Agent, Martinsburg, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 5.86 reverted, 1.82; insoluble, 0.65; total, 8.33; available, 7.68; potash, 5.75; chlorine, 3.2.

Remark: Chlorine excessive. (See No. 5970).

5995. Wheat and Clover. R. N. Stewart & Son, Agent, Martinsburg, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 5; phosphoric acid from acid phosphate, potash 1/3 to 2/3 from kainit, 1/2 to 2/3 from muriate of potash. Found: Phosphoric acid, soluble, 7.01; reverted, 2.67; insoluble, 0.54; total, 10.22; available, 9.68; potash, 4.56; chlorine, 2.2.

Remark: Phosphoric acid low. Potash low.

5996. Grain Grower. R. N. Stewart & Son, Agent, Martinsburg, W. Va. Guarantee: Phosphoric acid, soluble, 6; re-

verted, 2; insoluble, 1; total, 9; available, 8; potash, 2; nitrogen, 1.65; phosphoric acid, 2/5 to 3/5 from acid phosphate, 1/5 to 2/5 from bone meal, nitrogen 1-10 to 2-10 from bone, 8-10 to 9-10 from bone tankage, potash, 1/5 to 2/5 from muriate of potash, 2/5 to 3/5 from kainit. Found: Phosphoric acid, soluble, 5.67; reverted, 3.97; insoluble, 0.90; total, 9.54; available, 8.64; nitrogen, 1.68; potash, 2.26; availability of nitrogen, 91; chlorine, 2.8.

Remark: Chlorine high. Source of potash equivalent to kainit alone.

5974. Grain Grower. R. N. Stewart & Son, Agent, Martinsburg, W. Va. Guarantee: (As above. Found: Phosphoric acid, soluble, 6.86; reverted, 2.16; insoluble, 1.04; total, 10.06; available, 9.02; nitrogen, 1.69; potash, 2.19; availability of nitrogen, 94; chlorine, 3.0.

Remark: Chlorine high. Source of potash equivalent to kainit alone.

5997. Wheat Special. R. N. Stewart & Son, Agent, Martinsburg, West Virginia. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 2; phosphoric acid, 2/5 to 3/5 from acid phosphate, 1/5 to 2/5 from bone meal; nitrogen, 1/5 to 3/5 from bone, 2/5 to 3/5 from bone tankage; potash from kainit. Found: Phosphoric acid, soluble, 4.89; reverted, 2.98; insoluble, 0.88; total, 8.75; available, 7.87; nitrogen, 0.85; potash, 2.29; availability of nitrogen, 71; chlorine, 2.2.

Remark: Source of potash equivalent to manure salts. Better than guaranteed.

BAUGH & SONS COMPANY,

Baltimore, Md.

5823. Baugh's General Crop Grower. Conoway & Clayton, Agent, Barracksville, W. Va. Guarantee: Phosphoric acid, available, 8; nitrogen, 0.823; potash, 1; phosphoric acid from

phosphate rock; nitrogen ½ garbage tankage, ½ animal tankage, potash from kainit. Found: Phosphoric acid, soluble, 4.36; reverted, 3.88; insoluble, 1.69; total, 9.93; available, 7.24; nitrogen, 1.09; potash, 1.54; availability of nitrogen, 89; chlorine, 3.0.

5860. Baugh's General Crop Grower. West Virginia Implement Company, Agent, Elkins, W. Va. Guarantee: (As above). Phosphoric acid, soluble, 4.89; reverted, 3.57; insoluble, 1.39; total, 9.85; available, 8.46; nitrogen, 1.11; potash, 1.81; availability of nitrogen, 80; chlorine, 2. 5.

5862. Baugh's General Crop Grower. R. T. Lowndes, Agent, Clarksburg, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 2.89; reverted, 5.05; insoluble, 1.91; total, 9.85; available, 7.94; nitrogen, 1.14; potash, 1.74; availability of nitrogen, 51; chlorine, 3.1.

Remark: Chlorine high.

5819. Baugh's Special Potato Manure. Conoway & Clayton, Agent, Barracksville, W. Va. Guarantee: Phosphoric acid, insoluble, 2.00; total, 7.00; available, 5; nitrogen, 1.65; potash, 10; phosphoric acid from phosphate rock; nitrogen, ½ from animal matter, ½ from sulphate of ammonia; potash from muriate of potash. Found: Phosphoric acid, soluble, 3.45; reverted, 1.86; insoluble, 0.93; total, 6.24; available, 5.31; nitrogen, 1.63; potash, 11.36; availability of nitrogen, 85; chlorine, 1.5.

Remark: Chlorine high.

5848. Baugh's Special Potato Manure. Deane & Reeves, Agent, Fairmont, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 3.58; reverted, 1.88; insoluble, 0.49; total, 5.85; available, 5.36; nitrogen, 1.72; potash, 11.34; availability of nitrogen, 90; chlorine, 1.4.

Remark; Chlorine high.

5859. Baugh's Special Potato Manure. West Virginia Implement Company, Agent, Elkins, W. Va. Guarantee: (As

above). Found: Phosphoric acid, soluble, 1.82; reverted, 3.55; insoluble, 1.54; total, 6.91; available, 5.37; nitrogen, 1.69; potash, 11.96; availability of nitrogen, 88; chlorine, 1.2.

5821. Baugh's Excelsior Guano. Conoway & Clayton, Agent, Barracksville, W. Va. Guarantee: Phosphoric acid, insoluble, 2; total, 10; available, 8; nitrogen, 0.823; potash, 4; phosphoric acid from phosphate rock, nitrogen ½ from animal tankage, ½ from garbage tankage, potash ½ from muriate, ½ from kainit. Found: Phosphoric acid, soluble, 6.14; reverted, 2.58; insoluble, 1.64; total, 10.36; available, 8.72; nitrogen, 0.97; potash, 4.20; availability of nitrogen, 81; chlorine, 1.9.

5844. Baugh's Excelsior Guano. Dean & Reeves, Agent, Fairmont, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 4.81; reverted, 3.36; insoluble, 1.39; total, 9.56; available, 8.17; nitrogen, 1.28; potash, 4.47; availability of nitrogen, 83; chlorine, 1.4.

Remark: Source of potash better than guaranteed.

5861. Baugh's Excelsior Guano. West Virginia Implement Co., Agent, Elkins, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 5.19; reverted, 3.34; insoluble, 1.27; total, 9.80; available, 8.53; nitrogen, 1.02; potash, 4.24; availability of nitrogen, 75; chlorine, 2.2.

5866. Baugh's Excelsior Guano. R. T. Lowndes, Agent, Clarksburg, W. Va. (As above). Found: Phosphoric acid, soluble, 6.17; reverted, 2.91; insoluble, 1.64; total, 10.72; available, 9.08; nitrogen, 1.10; potash, 4.65; availability of nitrogen, 69; chlorine, 1.2.

Remark: Source of potash better than guaranteed.

5822. Baugh's High Grade Acid Phosphate. Conoway & Clayton, Agent, Barracksville, W. Va. Guarantee: Phosphoric acid, insoluble, 1; total, 15; available, 14; phosphoric acid from phosphate rock. Found: Phosphoric acid, soluble, 12.32; reverted, 3.72; insoluble, 1.29; total, 17.33; available, 16.04.

5905., Baugh's High Grade Acid Phosphate. Offutt & Lakin, Terra Alta, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 12.12; reverted, 4.85; insoluble, 0.73; total, 17.71; available, 16.98.

5845. Baugh's Potato and Truck Special For All Crops. Dean & Reeves, Agent, Fairmont, W. Va. Guarantee: Phosphoric acid, insoluble, 2; total, 9; available, 7; nitrogen, 2.88; potash, 7; phosphoric acid from phosphate rock; nitrogen ½ from animal tankage, ½ from sulphate of ammonia, potash from muriate of potash. Found: Phosphoric acid, soluble, 5.50; reverted, 2.01; insoluble, 1.07; total, 8.58; available, 7.51; nitrogen, 2.97; potash, 6.99; availability of nitrogen, 86; chlorine, 1.2.

Remark: Chlorine high.

5847. Baugh's Raw Bone Meal, Warranted Pure. Dean & Reeves, Agent, Fairmont, W. Va. Guarantee: Phosphoric acid, total, 21.50; nitrogen, 3.70; phosphoric acid from animal bone, nitrogen from animal bone. Found: Phosphoric acid, total, 21.21; nitrogen, 3.82; availability of nitrogen, 72.

Remark: Phosphoric acid low.

5865. Baugh's Raw Bone Meal, Warranted Pure. R. T. Lowndes, Agent, Clarksburg, W. Va. Guarantee: (As above). Found: Phosphoric acid, total, 21.12; nitrogen, 3.84; availability of nitrogen, 70.

Remark: Phosphoric acid low.

5820. Baugh's Animal Bone and Potash Compound For All Crops. Conoway & Clayton, Agent Barracksville, W. Va. Guarantee: Phosphoric acid, insoluble, 2; total, 10; available, 8; nitrogen, 1.65; potash, 2; phosphoric acid from phosphate rock; nitrogen ⅔ from animal tankage, ⅓ from sulphate of ammonia; potash, ½ from muriate of potash, ½ from kainit. Found: Phosphoric acid, soluble, 5.55; reverted, 2.63; insoluble, 1.29; total, 9.47; available, 7.18; nitrogen, 2.13; potash, 2.18; availability of nitrogen, 94; chlorine, 2.6.

Remark: Chlorine high. Source of potash equivalent to high grade kainit alone.

5846. Baugh's Double Eagle $25.00 Phosphate, a Raw Bone Superphosphate. Dean & Reeves, Agent, Fairmont, W. Va. Guarantee: Phosphoric acid, insoluble, 2; total, 10; available, 8; nitrogen, 1.65; potash, 1; phosphaoric acid from phosphate rock, nitrogen ⅔ from animal tankage, ⅓ from sulphate of ammonia, potash from kainit. Found: Phosphoric acid, soluble, 5.09; reverted, 3.14; insoluble, 1.47; total, 9.70; available, 8.23; nitrogen, 1.63; potash, 1.39; availability of nitrogen, 79; chlorine, 3.1.

Remark: Chlorine high.

5863. Baugh's Double Eagle $25.00 Phosphate, a Raw Bone Superphosphate. R. T. Lowndes, Agent, Clarksburg, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 4.35; reverted, 4.20; insoluble, 1.91; total, 10.46; available, 8.55; nitrogen, 1.72; potash, 1.63; availability of nitrogen, 90; chlorine, 3.0.

5906. Baugh's Double Eagle $25.00 Phosphate, a Raw Bone Superphosphate. Offutt & Lakin, Agent, Terra Alta, W. Va. Guarantee. (As above). Found: Phosphoric acid, soluble, 4.55; reverted, 3.55; insoluble, 1.14; total, 9.24; available, 8.10; nitrogen, 1.68; potash, 1.43; availability of nitrogen, 82; chlorine, 2.6.

5907. Baugh's Soluble Alkaline. Offutt & Lakin, Agent, Terra Alta, W. Va. Guarantee: Insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from phosphate rock, potash from kainit. Found: Phosphoric acid, soluble, 1.74; reverted, 7.82; insoluble, 1.10; total, 10.66; available, 9.56; potash, 2.42; chlorine, 3.0.

5966. Baugh's Ammoniated Soluble Alkaline. A. P. Russell & Co., Agent, Buckhannon, W. Va. Guarantee: Phosphoric acid, insoluble, 2; total, 10; available, 8; nitrogen, 0.411; potash, 2; phosphoric acid from phosphate rock; nitrogen from garbage tankage, potash ½ from kainit, ½ muriate of potash. Found: Phosphoric acid, soluble, 2.43; reverted, 5.55; insoluble,

2.15; total, 10.13; available, 7.98; nitrogen, 0.46; potash, 2.70; availability of nitrogen, 78; chlorine, 2.6.

Remark: Chlorine high. Source of potash equivalent to kainit alone.

5867. Baugh's Wheat Fertilizer. R. T. Lowndes, Agent, Clarksburg, W. Va. Guarantee: Phosphoric acid, insoluble, 2; total, 10; available, 8; nitrogen, 1.65; potash, 2; phosphoric acid from phosphate rock, nitrogen ⅔ from animal tankage, ⅓ from sulphate of ammonia; potash ½ from muriate of potash, ½ from kainit. Found: Phosphoric acid, soluble, 2.60; reverted, 2.69; insoluble, 1.29; total, 9.58; available, 8.29; nitrogen, 1.64; potash, 2.33; availability of nitrogen, 88; chlorine, 2.4.

Remark: Too much chlorine for high grade vareties of materials claimed.

5864. Baugh's Peruvian Guano Substitute For Potatoes and All Vegetables. R. T. Lowndes, Agent, Clarksburg, Guarantee: Phosphoric acid, insoluble, 2; total, 8; available, 6; nitrogen, 4.12; potash, 7; phosphoric acid from phosphate rock, nitrogen ½ from animal tankage, ½ from sulphate of ammonia, potash from muriate of potash. Found: Phosphoric acid, soluble, 4.35; reverted, 2.98; insoluble, 1.34; total, 8.67; available, 7.33; nitrogen, 4.18; potash, 7.19; availability of nitrogen, 92; chlorine, 1.

5849. Baugh's Nitrate of Soda. Dean & Reeves, Agent, Fairmont, W. Va. Found; Nitrogen, 15.58.

5850. Baugh's Muriate of Potash. Dean & Reeves, Agent, Fairmont, W. Va. Found: Potash, 55.00; chlorine, 0.9.

Note.—"Cholrine 0.9"—that is the way it ought to run in mixed goods.

GEORGE A. BELL,

Wheelersburg, Ohio.

5851. Potato and Tobacco Special. Mossman Bros., Agent, Huntington, W. Va. Guarantee: Phosphoric acid, available, 8; nitrogen, 1; potash, 4; phosphoric acid from tankage and rock; nitrogen from animal tankage, potash from sulphate. Found: Phosphoric acid, soluble, 6.78; reverted, 3.38; insoluble, 2.29; total, 12.45; available, 10.16; nitrogen, 1.69; potash, 4.43; availability of nitrogen, 93; chlorine, 0.1.

Note how nearly the chlorine may be eliminated by using real high grade sulphate of potash.

5852. Dissolved Bone. Mossman Bros., Agent, Huntington, W. Va. Guarantee: Phosphoric acid, available, 15; phosphoric acid from rock. Found: Phosphoric acid, soluble, 13.38; reverted, 3.64; insoluble, 3.07; total, 20.09; available, 17.02.

BOWKER FERTILIZER COMPANY,

Cincinnati, Ohio.

5926. Bowker's Potash Fertilizer. John Gay, Agent, Marlinton, W. Va. Guarantee: Phosphoric acid, insoluble, 2; total, 12; available, 10; potash, 5; phosphoric acid from phosphate rock, potash from muriate. Found: Phosphoric acid, soluble, 5.25; reverted, 5.27; insoluble, 2.78; total, 13.30; available, 10.52; potash, 5.23; chlorine, 0.9.

5932. Bowker's Potash Fertilizer. J. M. Miller & Bros., Agent, Ronceverte, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 4.81; reverted, 5.38; insoluble, 2.99; 13.18; available, 10.19; potash, 5.59; chlorine, 0.9.

5930. Bowker's Harvest Bone. J. M. Miller & Bros., Agent, Ronceverte, W. Va. Guarantee: Phosphoric acid, insoluble, 1; total, 9; available, 8; potash, 1; nitrogen, 0.82; phosphoric acid, 1/8 from slaughter house refuse, 7/8 from phosphate rock; nitrogen, 4/5 from slaughter house refuse, 1/5 from nitrate of soda; potash from muriate: Found: Phosphoric acid, soluble, 3:30; reverted, 3.53; insoluble, 2.93; total, 9.76; available, 6.83; nitrogen, 1.09; potash, 1.21; availability of nitrogen, 58; chlorine, 2.

Remark: Phosphoric acid low. Chlorine excessive. Source of nitrogen equivalent to ground leather.

5931. Bowker's Harvest Bone. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 2.87; reverted, 4.01; insoluble, 2.83; total, 9.71; available, 6.88; nitrogen, 1.10; potash, 1.15; availability of nitrogen, 59; chlorine, 2.

Remarks: Phosphoric acid low. Chlorine excessive. Source of nitrogen equivalent to ground leather.

5947. Bowker's Harvest Bone. T. B. Drummond & Co., Buckhannon, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 3.56; reverted, 4.06; insoluble, 3.33; total, 10.95; available, 7.62; nitrogen, 0.96; potash, 1.22; availability of nitrogen, 59; chlorine, 1.8.

Remarks: Phosphoric acid low. Chlorine high. Source of nitrogen equivalent to ground leather.

5948. Bowker's Soluble Bone. T. B. Drummond & Co., Buckhannon, W. Va. Guarantee: Phosphoric acid, insoluble, 2; total, 16; available, 14; phosphoric acid from phosphate rock. Found: Phosphoric acid, soluble, 8.88; reverted, 5.85; insoluble, 2.87; total, 17.60; available, 14.73.

5976. Bowker's 10% Manure. T. B. Drummond & Co., Agent, Buckhannon, W. Va. Guarantee: Phosphoric acid, insoluble, 2; total, 7; available 5; nitrogen, 0.82; potash, 10; phosphoric acid, 1/5 from slaughter house refuse, 4/5 from phosphate

rock; nitrogen, from slaughter house refuse; potash from muriate. Found: Phosphoric acid, soluble, 2.10; reverted, 3.49; insoluble, 1.16; total, 6.75; available, 5.59; nitrogen, 0.96; potash, 10.86; availability of nitrogen, 78; chlorine, 1.

GRIFFITH & BOYD COMPANY,

Baltimore, Maryland.

5953. XX Potash Manure. T. P. Licklider, Agent, Martinsburg, W. Va. Guarantee: Phosphoric acid, soluble, 7; reverted, 3; insoluble, 1; total, 11; available, 10; potash, 5; phosphoric acid from S. C. rock; potash, ½ from muriate and ½ from kainit. Found: Phosphoric acid, soluble, 4.81; reverted, 6.28; insoluble, 2.14; total, 13.23; available, 11.09; potash, 4.32; chlorine, 1.7.

Remark: Potash low. Source of potash high grade for materials claimed.

5979. High Grade Acid Phosphate. T. P. Licklider, Agent, Martinsburg, W. Va. Guarantee: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from S. C. rock. Found: Phosphoric acid, soluble, 11.59; reverted, 3.25; insoluble, 0.13; total, 14.97; available, 14.84.

JARECKI CHEMICAL COMPANY,

Sandusky and Cincinnati, Ohio.

5853. No. 1, Fish Guano. Damron Feed and Seed Company, Agent, Huntington, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 1; potash, 2; phosphoric acid from mineral phosphate, bone

and animal tankage; nitrogen from animal tankage, potash from muriate. Found: Phosphoric acid, soluble, 5.07; reverted, 3.50; insoluble, 1.82; total, 10.39; available, 8.57; nitrogen, 0.90; potash, 2.16; availability of nitrogen, 84; chlorine, 1.3.

Remark: Nitrogen low. Chlorine high.

5878. No. 1, Fish Guano. J. M. Harbour and J. S. Burdett, Agents, Hurricane, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 5.53; reverted, 3.08; insoluble, 1.88; total, 10.49; available, 8.61; nitrogen, 0.98; potash, 1.66; availability of nitrogen, 79; chlorine, 1.9.

Remark: Potash low. Chlorine excessive.

5854. C. O. D. Phosphate. Damron Feed and Seed Company, Agent, Huntington, W. Va. Guarantee: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14. Found: Phosphoric acid, soluble, 12.46; reverted, 2.99; insoluble, 2.37; total, 17.82; available, 15.45.

5876. Fish and Potash Tobacco and Potato Food. J. M. Harbour and J. S. Burdett, Agents, Hurricane, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 4; phosphoric acid from mineral phosphate, bone and animal tankage; nitrogen from animal tankage; potash from muriate. Found: Phosphoric acid, soluble 5.32; reverted, 2.70; insoluble, 1.73; total, 9.75; available, 8.02; nitrogen, 0.80; potash, 3.55; availability of nitrogen, 78; chlorine, 1.4.

Remark: Potash low. Chlorine high.

5877. Phosphate With Potash. J. M. Harbour and J. S.Burdett, Agents, Hurricane, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from mineral phosphate; potash from muriate. Found: Phosphoric acid, soluble, 4.84; reverted, 5.85; insoluble, 1.98; total, 12.67; available, 10.69; potash, 1.68; chlorine, 1.6.

Remark: Potash low. Chlorine high.

MARIETTA BONE AND PHOSPHATE COMPANY,

Marietta, Ohio.

5801. Nitrate of Soda. Walter Marshall, Agent, Wheeling, W. Va. Found: Nitrogen, 15.46.

5802. Horse Brand Potato and Truck Special. Walter Marshall, Agent, Wheeling, W. Va. Guarantee: Phosphoric acid, total, 11; available, 8; nitrogen, 2.50; potash, 5; phosphoric acid, ¼ from animal tankage, ¾ from acid phosphate; nitrogen, ½ from animal tankage and ½ from nitrate of soda; potash from sulphate of potash. Found: Phosphoric acid, soluble, 2.78; reverted, 5.13; insoluble, 2.70; total, 10.61; available, 7.91; nitrogen, 1.15; potash, 4.18; availability of nitrogen, 92; chlorine, 0.1.

Remark: Nitrogen low. Potash low.

5836. Horse Brand Potato and Truck Special. C. F. Braunlich, Agent, Wheeling, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 2.56; reverted, 6.53; insoluble, 2.23; total, 11.32; available, 9.07; nitrogen, 1.08; potash, 5.45; availability of nitrogen, 84; chlorine, 1.

Remark: Chlorine excessive. Equivalent to muriate.

5994. Horse Brand Potato and Truck Special. Walter Marshall, Agent, Wheeling, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 2.29; reverted, 5.63; insoluble, 0.88; total, 8.80; available, 7.92; nitrogen, 1.14; potash, 4.04; availability of nitrogen, 91; chlorine, 1.5.

Remark: Nitrogen low. Potash low. Chlorine excessive; equivalent to manure salts.

5835. Horse Brand Acid Phosphate. C. F. Braumlich, Agent, Wheeling, W. Va. Guarantee: Phosphoric acid, total, 14; available, 12; phosphoric acid from acid phosphate. Found:

Phosphoric acid, soluble, 10.59; reverted, 2.38; insoluble, 0.32; total, 13.29; available, 12.97.

5843. Horse Brand Acid Phosphate. C. F. Braumlich, Agent, Wheeling, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 11; reverted, 2.21; insoluble, 0.22; total, 13.43; available, 13.21.

5842. Horse Brand Pure Raw Bone. C. F. Braumlich, Agent, Wheeling, W. Va. Guarantee: Phosphoric acid, total, 20; nitrogen, 3.80; phosphoric acid from bone; nitrogen, from bone. Found: Phosphoric acid, total, 18.79; nitrogen, 3.07; availability of nitrogen, 82.

Remark: Phosphoric acid low. Nitrogen low.

5991. Horse Brand Buckeye. Walter Marshall, Agent, Wheeling, W. Va. Guarantee: Phosphoric acid, total, 11; available, 8; nitrogen, 1.80; potash, 2; phosphoric acid, ½ from animal tankage, ½ from acid phosphate; nitrogen from animal tankage; potash from kainit. Found: Phosphoric acid, soluble, 2.05; reverted, 7.24; insoluble, 1.11; total, 10.40; available, 9.29; nitrogen, 0.97; potash, 2.75; availability of nitrogen, 86; chlorine, 2.7.

Remark: Nitrogen low.

OHIO FARMERS' FERTILIZER COMPANY,

Columbus, Ohio.

5831. Fine Ground Bone Meal. J. A. Mason Hardware Company, Agent, Mannington, W. Va. Guarantee: Phosphoric acid, total, 20; nitrogen, 1.23; phosphoric acid from animal bone; nitrogen from bone. Found: Phosphoric acid, total, 31.36; nitrogen, 1.29; availability of nitrogen, 86.

5837. Alkaline Bone. Chester Hardware Company, Agent, Chester, W. Va. Guarantee: Phosphoric acid, soluble,

10; reverted, 4; total, 16; available, 14. Found: Phosphoric acid, soluble, 3.71; reverted, 10.15; insoluble, 2.46; total, 16.32; available, 13.86.

G. OBER & SONS COMPANY,

Baltimore, Md.

5951. KAINIT. R. N. Stewart & Son, Agent, Martinsburg, W. Va. Found: Potash, 14.16; chlorine, 3.8.

5975. OBER'S DISSOLVED BONE PHOSPHATE. R. N. Stewart & Son, Agent, Martinsburg, W. Va. Guarantee: Phosphoric acid, soluble, 11; reverted, 3; insoluble, 1; total, 15; available, 14; phosphoric acid from high grade Florida phosphate. Found: Phosphoric acid, soluble, 13.15; reverted, 4.22; insoluble, 0.77; total, 18.14; available, 17.37.

5983. OBER'S DISSOLVED BONE PHOSPHATE. A. G. Chrislip, Agent, Philippi, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 13.61; reverted, 1.74; insoluble, 0.28; total, 15.63; available, 15.35.

6000. OBER'S DISSOLVED BONE PHOSPHATE. R. N. Stewart & Son, Agent, Martinsburg, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 13.56; reverted, 1.87; insoluble, 0.09; total, 15.52; available, 15.43.

5981. OBER'S FARMERS' MIXTURE. A. G. Chrislip, Agent, Philippi, W. Va. Guarantee: Phosphoric acid, soluble, 7; reverted, 2; insoluble, 1; total, 10; available, 9; nitrogen, 0.82; potash, 2; phosphoric acid from high grade Florida phosphate, ⅞ bone from tankage and fish, ⅛ nitrogen from high grade bone and blood tankage, ½ to ¾, fish, ½ to ¾; potash from sulphate of potash. Found: Phosphoric acid, soluble, 7.93; reverted, 1.66; insoluble, 0.45; total, 10.04; available, 9.59; nitrogen, 1.14; potash, 2.31; availability of nitrogen, 86; chlorine, 2.2.

Remark: Chlorine excessive. Source of potash equivalent to 20% manure salts.

6002. Ober's Dissolved Bone Phosphate and Potash. R. N. Stewart & Son, Agent, Martinsburg, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from high grade Florida phosphate; potash from sulphate of potash. Found: Phosphoric acid, soluble, 9.16; reverted, 1.92; insoluble, 0.14; total, 11.22; available, 11.08; potash, 2.35; chlorine, 2.6.

Remark: Chlorine excessive. Source of potash equivalent to manure salts.

5998. Ober's Dissolved Animal Bone. R. N. Stewart & Son, Agent, Martinsburg, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; nitrogen, 2.47; phosphoric acid from bone; nitrogen from bone. Found: Phosphoric acid, soluble, 7.11; reverted, 7.56; insoluble, 0.86; total, 15.53; available, 14.67; nitrogen, 2.64; availability of nitrogen, 92.

PITTSBURG PROVISION & PACKING COMPANY,

Pittsburg, Pa.

5901. Acid Phosphate. West Virginia Experiment Station, Morgantown, W. Va. Guarantee: Phosphoric acid, soluble, 12; reverted, 1; insoluble, 1; total, 14; available, 13; phosphoric acid from phosphate rock. Found: Phosphoric acid, soluble, 11.13; reverted, 3.29; insoluble, 1.89; total, 16.31; available, 14.42.

PIEDMONT MT. AIRY GUANO COMPANY,
Baltimore, Md.

5912. Piedmont Farmers' Favorite. Cicero Phililps, Agent, Belington, W. Va. Guarantee: Phosphoric acid, insoluble, 2; total, 10; available, 8; nitrogen, 0.82; potash, 4.; phosphoric acid from dissolved phosphate rock and dissolved bone tankage; potash, ½ from muriate of potash, ½ from kainit; nitrogen, ½ from blood and ½ from bone tankage. Found: Phosphoric acid, soluble, 5.73; reverted, 2.52; insoluble, 1.14; total, 9.39; available, 8.25; nitrogen, 0.83; potash, 4.11; availability of nitrogen, 75; chlorine, 1.3.

Remark: Source of potash better than guaranteed.

5972. Piedmont Farmers' Favorite. A. P. Russell & Co., Agent, Buckhannon, W. Va. Guaranteed: (As above). Found: Phosphoric acid, soluble, 3.53; reverted, 4.88; insoluble, 0.75; total, 9.16; available, 8.41; nitrogen, 0.80; potash, 4.36; availability of nitrogen, 75; chlorine, 1.4.

Remark: Source of potash better than guaranteed.

5917. Piedmont Potato Producer. Cicero Phillips, Agent, Belington, W. Va. Guarantee: Phosphoric acid, insoluble, 2; total, 7; available, 5; nitrogen, 2.09; potash, 6; phosphoric acid from dissolved bone and phosphate rock; nitrogen, ⅓ from bone tankage, ⅓ from nitrate of soda and ⅓ from blood; potash from high grade muriate of potash. Found: Phosphoric acid, soluble, 4.14; reverted, 2.75; insoluble, 0.81; total, 7.70; available, 6.89; nitrogen, 2.03; potash, 6.94; availability of nitrogen, 86; chlorine, 0.9.

5923. Piedmont Special Potash Mixture. Cicero Phillips, Agent, Belington, W. Va. Guarantee: Phosphoric acid, insoluble, 1; total, 11; available, 10; potash, 5; phosphoric acid from phosphate rock; potash, ½ from muriate of potash, ½ from kainit. Found: Phosphoric acid, soluble, 8.29; reverted, 1.66; insoluble, 0.45; total, 10.40; available, 9.95; potash, 3.91; chlorine, 0.7.

Remark: Potash low. Source of potash very much better than guaranteed.

5933. Piedmont Farmer's High Grade Bone and Potash. Cicero Phillips, Agent, Belington, W. Va. Guarantee: Phosphoric acid, insoluble, 2; total, 12; available, 10; potash, 2; phosphoric acid from S. C. rock; potash from kainit. Found: Phosphoric acid, soluble, 7.85; reverted, 2.15; insoluble, 0.58; total, 10.58; available, 10; potash, 2.33; chlorine, 3.5.

Remark: Chlorine high.

5858. Pure Raw Bone Meal. A. P. Russell & Co., Agent, Buckhannon, W. Va. Guarantee: Phosphoric acid, total, 23; nitrogen, 3.70; phosphoric acid from bone; nitrogen from raw bone. Found: Phosphoric acid, total, 20.42; nitrogen, 3.48; availability of nitrogen, 88.

Remark: Phosphoric acid low. Nitrogen low.

5960. Piedmont's General Crop Grower. A. P. Russell & Co., Agent, Buckhannon, W. Va. Guarantee: Phosphoric acid, available, 8; nitrogen, 0.82; potash, 1; phosphoric acid from bone phosphate; nitrogen, ½ from bone tankage, ½ from blood; potash, ½ from muriate of potash and ½ from kainit. Found: Phosphoric acid, soluble, 5.35; reverted, 2.56; insoluble, 0.69; total, 8.60; available, 7.91; nitrogen, 0.63; potash, 1.53; availability of nitrogen, 77; chlorine, 2.4.

Remark: Nitrogen low. Chlorine high.

5977. Piedmont's Pure Raw Bone Mixture. A. P. Russell, Agent, Buckhannon, W. Va. Guarantee: Phosphoric acid, insoluble, 4; total, 12; available, 8; nitrogen, 1.02; potash, 2; phosphoric acid from dissolved bone tankage; nitrogen from bone tankage; potash, ½ from muriate, ½ from kainit. Found: Phosphoric acid, soluble, 5.68; reverted, 4.26; insoluble, 0.78; total, 10.72; available, 9.94; nitrogen, 1.39; potash. 2.16; availability of nitrogen, 84; chlorine, 3.1.

Remark: Chlorine excessive. Source of potash equivalent to kainit alone.

RASIN MONUMENTAL COMPANY,
Baltimore, Md.

5887. Rasin's Bone and Potash Fertilizer. A. G. Chrislip, Agent, Philippi, W. Va. Guarantee: Phosphoric acid, soluble,

8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from high grade Florida, Tennessee and Charleston phosphate; potash from high grade kainit. Found: Phosphoric acid, soluble, 5.19; reverted, 4.76; insoluble, 2.80; total, 12.75; available, 9.95; potash, 2.03; chlorine, 3.6.

Remark: Chlorine excessive.

5911. Rasin's Bone and Potash Fertilizer. C. W. Mayer & Sons Co., Agent, Terra Alta, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 4.40; reverted, 5.19; insoluble, 2.21; total, 11.80; available, 8.59; potash, 1.70; chlorine, 3.8.

Remark: Phosphoric acid low. Potash low. Chlorine excessive.

6004. Rasin's Bone and Potash Fertilizer. Washington & Alexander, Agent, Charles Town, W. Va. Guarantee (As above) Found: Phosphoric acid, soluble, 5.01; reverted, 5.34; insoluble, 2.15; total, 12.50; available, 10.35; potash, 1.30; chlorine, 3.3.

Remark: Potash low. Chlorine excessive.

5888. Rasin's Acid Phosphate. A. G. Chrislip, Agent, Philippi, W. Va. Guarantee: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from high grade Florida, Tennessee and Charleston phosphate. Found: Phosphoric acid, soluble, 10.90; reverted, 4.09; insoluble, 2.42; total, 17.41; available, 14.99.

5899. Rasin's Acid Phosphate. Parley De Berry, Agent, Terra Alta, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 11.74; reverted, 4.01; insoluble, 1.43; total, 17.18; available, 15.75.

5985. Rasin's Acid Phosphate. George Carskadon, Agent, Keyser, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 11.16; reverted, 2.53; insoluble, 1.52; total, 15.21; available, 13.69.

Remark: Phosphoric acid low.

5908. Rasin's Dissolved Bone. C. W. Mayer & Sons Co., Agent, Terra Alta, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1.50; total, 11.50; available, 10; nitrogen, 1.65; phosphoric acid from high grade Florida, Tennessee and Charleston phosphate; nitrogen, ½ to

⅔ from dissolved pure ground bone, ⅓ to ½ from high grade tankage. Found: Phosphoric acid, soluble, 7.96; reverted, 3.92; insoluble, 2.55; total, 14.43; available, 11.88; nitrogen, 1.89; availability of nitrogen, 68.

Remark: Availability of nitrogen low.

5909. Rasin's Special Bone and Potash. C. W. Mayer & Sons Co., Agent, Terra Alta, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; potash, 5; phosphoric acid from high grade Florida, Tennessee and Charleston phosphate; potash from ⅔ to ¾ from high grade muriate of potash, ⅓ to ¼ from kainit. Found: Phosphoric acid, soluble, 4.91; reverted, 4.46; insoluble, 2.11; total, 11.48; available, 9.37; potash, 5.52; chlorine, 2.1.

Remark: Phosphoric acid low. Chlorine high.

5964. Rasin's Special Bone and Potash. J. W. Knotts, Agent, Grafton, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 4.71; reverted, 4.14; insoluble, 2.41; total, 11.26; available, 8.85; potash, 5.54; chlorine, 2.2.

Remark: Phosphoric acid low. Chlorine high.

5957. Special Formula For Corn and Buckwheat. J. W. Knotts, Agent, Grafton, W. Va. Guarantee: Phosphoric acid, soluble, 4; reverted, 2; insoluble, 1; total, 7; available, 6; potash, 3; phosphoric acid from high grade Florida, Tennessee and Charleston phosphate; potash from high grade kainit. Found: Phosphoric acid, soluble, 1.23; reverted, 5.60; insoluble, 1.89; total, 8.72; available, 6.83; potash, 3.29; chlorine, 3.2.

Remark: Chlorine high.

5962. William Penn Crop Grower. J. W. Knotts, Agent, Grafton, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; nitrogen, 0.82; potash, 1; phosphoric acid from high grade Florida, Tennessee and Charleston phosphate; nitrogen, ¼ to ⅓ from high grade fish; ⅓ to ½ from high grade tankage, ¼ to ⅓ from blood; potash from high grade kainit. Found: Phosphoric acid, soluble,

5.04; reverted, 2.93; insoluble, 2.34; total, 10.31; available, 7.97; nitrogen, 1.07; potash, 1.60; availability of nitrogen, 67; chlorine, 2.1.

Remark: Availability of nitrogen low.

5967. Rasin's Empire Guano. J. W. Knotts, Agent, Grafton, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1.50; total, 9.50; available, 8; nitrogen, 1.65; potash, 2; phosphoric acid from high grade Florida, Tennessee and Charleston phosphate; nitrogen, ¼ to ⅓ from high grade fish; ⅓ to ½ from high grade tankage; ¼ to ⅓ from blood; potash from high grade kainit. Found: Phosphoric acid, soluble, 4.30; reverted, 4.37; insoluble, 1.92; total, 10.59; available, 8.67; nitrogen, 1.63; potash, 2.08; availability of nitrogen, 70; chlorine, 2.7.

5968. Rasin's XXX Fertilizer. J. W. Knotts, Agent, Grafton, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1.50; total, 9.50; available, 8; nitrogen, 1.65; potash, 5; phosphoric acid from high grade Florida, Tennessee and Charleston phosphates; nitrogen, ¼ to ⅓ high grade fish; ½ to ⅓ high grade tankage; ¼ to ⅓ blood; potash ⅔ from high grade muriate of potash, ⅓ from high grade kainit. Found: Phosphoric acid, soluble, 5.65; reverted, 2.86; insoluble, 2.03; total, 10.54; available, 8.51; nitrogen, 1.58; potash, 4.60; availability of nitrogen, 71; chlorine, 1.2.

Remark: Potash low.

5969. Rasin's Triple Bone and Potash. J. W. Knotts, Agent, Grafton, W. Va. Guarantee: Phosphoric acid, soluble, 11; reverted, 2; insoluble, 1; total, 14; available, 13; potash, 6; phosphoric acid from high grade Florida and Tennessee phosphate; potash from high grade muriate of potash. Found: Phosphoric acid, soluble, 9.57; reverted, 3.01; insoluble, 0.64; total, 13.22; available, 12.58; potash, 6.00; chlorine, 0.9.

Remark: Phosphoric acid low.

5980. Rasin's I-X-L Fertilizer. J. W. Knotts, Agent, Grafton, W. Va. Guarantee: Phosphoric acid, soluble, 7; reverted, 2; insoluble, 1; total, 10; available, 9; nitrogen, 0.82;

potash, 3; phosphoric acid from high grade Florida, Tennessee and Charleston phosphate; nitrogen, ¼ to ⅓ from high grade fish; ⅓ to ½ from high grade tankage; ¼ to ⅓ blood; potash, ⅓ to ¼ from high grade muriate of potash; ⅔ to ¾ from high grade kainit. Found: Phosphoric acid, soluble, 6.09; reverted, 2.98; insoluble, 1.83; total, 10.90; available, 9.07; nitrogen, 0.89; potash, 3.13; availability of nitrogen, 66; chlorine, 3.6.

Remark: Chlorine excessive. Availability of nitrogen low.

5984. Sewall Special. George Carskadon, Agent, Keyser, W. Va. Guarantee: Phosphoric acid, soluble, 8; reverted, 2; insoluble, 1; total, 11; available, 10; phosphoric acid from high grade Florida, Tennessee and Charleston phosphate. Found: Phosphoric acid, soluble, 2.41; reverted, 8.34; insoluble, 1.62; total, 12.37; available, 10.75.

6005. Rasin's Soluble Alkaline Bone, Washington & Alexander, Agent, Charles Town, W. Va. Guarantee: Phosphoric acid, soluble, 10; reverted, 2; insoluble, 1; total, 13; available, 12; potash, 3; phosphoric acid from high grade Charleston, Tennessee and Florida phosphate; potash, ½ from high grade muriate potash and ½ from genuine German kainit. Found: Phosphoric acid, soluble, 7.55; reverted, 4.18; insoluble, 2.79; total, 14.52; available, 11.73; potash, 3.86; chlorine, 1.

Remark: Phosphoric acid low. Source of potash much better than guaranteed.

6006. Langdon's Mixture. Manufactured for Washington, Alexander & Cook, Washington & Alexander, Agent, Charles Town, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; potash, 1.25; nitrogen, 1.03; phosphoric acid from high grade Florida, Tennessee and Charleston phosphate; potash, ¼ to ⅓ form high grade muriate; ⅓ to ¾ from German kainit; nitrogen, ¼ to ⅓ from high grade fish; ⅓ to ½ from high grade tankage, ¼ to ⅓ from blood. Found: Phosphoric acid, soluble, 3.28; reverted, 4.64; insoluble, 4.75; total, 12.67; available, 7.92; nitrogen, 0.93; potash, 1.07; availability of nitrogen, 77; chlorine, 0.2.

Remark: Nitrogen low. Source of potash equivalent to sulphate. Very much better than guaranteed.

I. P. THOMAS & SON COMPANY,

1000 Drexel Building, Philadelphia, Pa.

6009. Alkaline Bone. T. P. Licklider, Agent, Martinsburg, W. Va. Guarantee: Phosphoric acid, insoluble, 1; total, 11; available, 10; potash, 2; phosphoric acid from dissolved phosphate rock; potash from kainit. Found: Phosphoric acid, soluble, 5.07; reverted, 4.83; insoluble, 0.42; total, 10.32; available, 9.90; potash, 1.90; chlorine, 3.7.

Remark; Chlorine excessive.

6010. S. C. Phosphate. T. P. Licklider, Agent, Martinsburg, W. Va. Guarantee: Phosphoric acid, insoluble, 1; total, 15; available, 14; phosphoric acid from dissolved phosphate rock. Found: Phosphoric acid, soluble, 12.74; reverted, 3.08; insoluble, 0.96; total, 16.78; available, 15.82.

SWIFT & COMPANY,

Chicago, Ill.

5918. Pure Bone Meal. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: Phosphoric acid, total, 25. nitrogen, 2.50; phosphoric acid from bone; nitrogen from 100% bone. Found: Phosphoric acid, total, 27.28; nitrogen, 2.97; availability of nitrogen, 88.

5925. Swift's Complete Fertilizer. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: Phosphoric acid, total, 11; available, 8; potash, 1; nitrogen, 1; phosphoric acid, ⅛ from bone, ⅞ from acid phosphate; potash, from muriate; nitrogen, ¼ from bone, ⅛ from blood, ⅝ from meat. Found: Phosphoric acid, soluble, 1.30; reverted, 7.97; insoluble, 0.36; total, 9.63; available, 9.27; nitrogen, 1.29; potash, 1.64; availability of nitrogen, 92; chlorine, 0.4.

5927. Swift's Super-Phosphate. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: Phosphoric acid, total, 12; available, 8; potash, 2; nitrogen, 1.64; phosphoric acid, ⅛ from bone, ⅞ from acid phosphate; potash, from muriate; nitrogen, ¼ from bone, ⅛ from blood, ⅝ from meat. Found: Phosphoric acid, soluble, 4.17; reverted, 4.06; insoluble, 1.02; total, 10.25; available, 9.23; nitrogen, 1.65; potash, 2.12; availability of nitrogen, 89; chlorine, 0.6.

VIRGINIA CAROLINA CHEMICAL COMPANY,
Richmond, Virginia.

5929. Allison & Addison's Star Brand Guano. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; potash, 1; nitrogen, 1.65; phosphoric acid, 4/5 from phosphate rock, 1/5 from animal bone; potash, ¼ from muriate, ¾ from kainit; nitrogen, ¼ each from animal tankage, fish, blood and nitrate of soda. Found: Phosphoric acid, soluble, 5.17; reverted, 3.52; insoluble, 1.28; total, 9.97; available, 8.69; nitrogen, 1.62; potash, 1.13; availability of nitrogen, 76; chlorine, 0.8.

Remark: Source of potash equivalent to muriate alone, very much better than guaranteed.

5934. Allison & Addison's Little Giant Grain and Grass Grower. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; potash, 2; nitrogen, 0.83; phosphoric acid, 4/5 from phosphate rock, 1/5 from animal bone; potash, ¼ from muriate, ¾ from kainit; nitrogen, ¼ each from animal tankage, fish, blood and nitrate of soda. Found: Phosphoric acid, soluble, 4.76; reverted, 4; insoluble, 1.50; total, 10.36; available, 8.86; nitrogen, 1.29; potash, 1.72; availability of nitrogen, 87; chlorine, 1.4.

Remark: Source of potash very much better than guaranteed.

5939. Allison & Addison's B. P. Bone and Potash Mixture. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: Phosphoric acid, soluble, 7; reverted, 3; insoluble, 1; total, 11; available, 10; potash 2; phosphoric acid from phosphate rock; potash, ¼ from muriate, ¾ from kainit. Found: Phosphoric acid, soluble, 4.48; reverted, 5.73; insoluble, 1; total, 11.21; available, 10.21; potash, 2.15; chlorine, 1.7.

Remark: Source of potash very much better than guaranteed.

6007. V. C. C. Co's Special Compound For Wheat. G. T. Hodges, Agent, Kearneysville, W. Va. Guarantee: Phos-

phoric acid, soluble, 6; reverted, 2; insoluble, 1; total, 9; available, 8; potash, 1; nitrogen, 0.82; phosphoric acid from Florida, Tennessee and Charleston phosphate rock; potash from high grade German kainit; nitrogen, ¼ to ⅓ from high grade fish; ⅓ to ½ high grade tankage, ¼ to ⅓ blood. Found: Phosphoric acid, soluble, 3.81; reverted, 4.18; insoluble, 4.66; total, 12.65; available, 7.99; nitrogen, 0.93; potash, 1.12; availability of nitrogen, 76; chlorine 0.8.

Remark: Source of potash equivalent to muriate. Very much better than guaranteed.

6008. V. C. C. Co's 14% Acid Phosphate. G. T. Hodges, Agent, Kearneysville, W. Va. Guarantee: Phosphoric acid, soluble, 12; reverted, 2; insoluble, 1; total, 15; available, 14; phosphoric acid from Florida, Tennessee and Charleston phosphate. Found: Phosphoric acid, soluble, 11.21; reverted, 2.76; insoluble, 1.57; total, 15.54; available, 13.97.

5940. S. W. Travers & Company Champion Corn Wheat and Grass Grower. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; potash, 1; nitrogen, 0.82; phosphoric acid, ⅘ from phosphate rock, ⅕ from animal bone; potash, ¼ from muriate, ¾ from kainit; nitrogen, ¼ each animal tankage, fish blood and nitrate of soda. Found: Phosphoric acid, soluble, 3.40; reverted, 4.91; insoluble, 1.16; total, 9.47; available, 8.31; nitrogen, 1.03; potash, 1; availability of nitrogen, 75; chlorine, 1.7.

Remark: Source of potash better than guaranteed.

5928. S. W. Travers & Company, Beef, Blood and Bone. J. M. Miller & Bro., Agent, Ronceverte, W. Va. Guarantee: Phosphoric acid, soluble 6; reverted, 2; insoluble, 2; total, 10; available, 8; potash, 1; nitrogen, 1.65; phosphoric acid, ⅘ from phosphate rock, ⅕ from animal bone; potash, ¼ from muriate, ¾ from kainit; nitrogen, ¼ each from animal tankage, fish, blood and nitrate of soda. Found: Phosphoric acid, soluble, 3.74; reverted, 4.21; insoluble, 1.29; total, 9.24; available, 7.95; potash, 0.81; nitrogen, 1.45; availability of nitrogen, 79; chlorine, 1.2.

Remark: Nitrogen low. Source of potash better than guaranteed.

5938. Southern Chemical Company's Sun Brand Guano. J. M. Miller & Bro., Ronceverte, W. Va. Guarantee: Phosphoric acid, soluble, 6; reverted, 2; insoluble, 2; total, 10; available, 8; potash, 5; nitrogen, 2.06; phosphoric acid, 4/5 from phosphate rock, 1/5 from animal bone; potash, ¾ from kainit, ¼ from muriate; nitrogen, ¼ each from animal tankage, fish, blood and nitrate of soda. Found: Phosphoric acid, soluble, 4.86; reverted, 2.95; insoluble, 1.07; total, 8.88; available, 7.81; nitrogen, 1.98; potash, 5.43; availability of nitrogen, 84; chlorine, 1.3.

Remark: Source of potash better than guaranteed.

ROBERT A. WOOLRIDGE & COMPANY,

Baltimore, Md.

5811. Liberty Bell Potash Mixture. First Ward Store Company, Agent, Fairmont, W. Va. Guarantee: Phosphoric acid, soluble, 10; reverted, 2; insoluble, 1; total, 13; available, 12; potash, 3; phosphoric acid from dissolved phosphate rock; potash, ½ manure salts, ½ muriate of potash. Found: Phosphoric acid, soluble, 9.38; reverted, 3.02; insoluble, 0.99; total, 13.39; available, 12.40; potash, 2.98; chlorine, 2.4.

Remark: Chlorine high.

5920. Liberty Bell Potash Mixture. I. J. Lohr, Agent, Belington, W. Va. Guarantee: (As above). Found: Phosphoric acid, soluble, 7.80; reverted, 3.79; insoluble, 1.28; total, 12.87; available, 11.59; potash, 3.45; chlorine, 3.

Remark: Phosphoric acid low. Chlorine excessive. Equivalent to kainit alone.

5812. Old Sledge Potash Mixture. First Ward Store Co., Agent, Fairmont, W. Va. Guarantee: Phosphoric acid, soluble, 10; reverted, 2; insoluble, 1; total, 13; available, 12; potash, 5; phosphoric acid from dissolved phosphate rock; potash, 3/5 muriate of potash, 3/5 manure salts. Found: Phosphoric acid, soluble, 9.72; reverted, 2.58; insoluble, 0.67; total, 12.97; available, 12.30; potash, 5.23; chlorine, 1.8.

5952. Champion Giant Phosphate. Thomas Nuzum, Agent, Grafton, W. Va. Guarantee: Phosphoric acid, soluble, 7; reverted, 2; insoluble, 1.50; total, 10.50; available, 9; potash, 2; nitrogen, 0.82; phosphoric acid, ¾ dissolved phosphate rock, ¼ animal bone and tankage; potash from kainit; nitrogen, ⅗ from fish, ⅗ from high grade bone tankage. Found: Phosphoric acid, soluble, 5.81; reverted, 3.21; insoluble, 1.09; total, 10.11; available, 9.02; nitrogen, 0.82; potash, 1.98; availability of nitrogen, 71; chlorine, 3.1.

5961. Special Potato Fertilizer. Thomas Nuzum, Agent, Grafton, W. Va. Guarantee: Phosphoric acid, soluble, 7; reverted, 2; insoluble, 1.50; total, 10.50; available, 9; potash, 5; nitrogen, 1.64; phosphoric acid, ¾ dissolved phosphate rock, ¼ bone in tankage; potash, ½ muriate of potash, ½ high grade manure salts; nitrogen, ⅖ fish, ⅗ bone tankage. Found: Phosphoric acid, soluble, 5.88; reverted, 3.77; insoluble, 0.87; total, 10.52; available, 9.65; nitrogen, 1.68; potash, 5.14; availability of nitrogen, 78; chlorine, 1.2.

THE FOLLOWING IS A LIST OF AGENTS WHOSE STOCK WAS SAMPLED DURING 1906.

Anderson, J. D.....Ronceverte, W. Va.
Braumlich, C. F., & Co.....Wheeling, W. Va.
Carmen, C. R.....Wellsburg, W. Va.
Carmen, Orie .....Wellsburg, W. Va.
Carskadon, George .....Keyser, W. Va.
Chrislip, A. G.....Philippi, W. Va.
Chester Hardware Company.....Chester, W. Va.
Conoway & Clayton.....Barracksville, W. Va.
Corrothers, W. S.....Catawba, W. Va.
Damaron Seed and Feed Company.....Huntington, W. Va.
Dean & Reeves.....Fairmont, W. Va.
De Berry, Parley.....Terra Alta, W. Va.
Drummond, T. P., & Co.....Buckhannon, W. Va.
Dudley, W. R.....Wheeling, W. Va.
England, Draper .....Belington, W. Va.

First Ward Store Company.....Fairmont, W. Va.
Farmington Mill Company.....Farmington, W. Va.
Gay, John .....Marlinton, W. Va.
Gans, J. W.....Grafton, W. Va.
Harbour, T. M., & J. S. Burdett.....Hurricane, W. Va.
Hedrick, J. W.....Alderson, W. Va.
Hagerty, J. M.....Farmington, W. Va.
Hodges, G. T.....Shepherdstown, W. Va.
Hunter, R. .....Berkeley Springs, W. Va.
Jacobs, Benson .....Little Falls, W. Va.
Johnson & Gwinn.....Alderson, W. Va.
Johnson Implement Company.....Parkersburg, W. Va.
Knotts, J. W.....Grafton, W. Va.
Licklider, T. P.....Martinsburg, W. Va.
Lohr, I. J.....Belington, W. Va.
Lowndes, R. T.....Clarksburg, W. Va.
Marshall, Walter .....Wheeling, W. Va.
Mason, J. A., Hardware Company.....Mannington, W. Va.
Mayer, C. W., & Son.....Terrra Alta, W. Va.
Mossman Bros. .....Huntington, W. Va.
Miller, J. M., & Bro.....Ronceverte, W. Va.
MacCallister, W. H.....Hurricane, W. Va.
Nuzum, Thomas .....Grafton, W. Va.
Offutt & Lakin.....Terra Alta, W. Va.
Philippi Mill Company.....Philippi, W. Va.
Phillips, Cicero .....Belington, W. Va.
Philipps, C. P.....Berkeley Springs, W. Va.
Russell, A. P., & Co.....Buckhannon, W. Va.
Seiver Hardware Company.....Keyser, W. Va.
Stewart, R. N., & Son.....Martinsburg, W. Va.
Upshur Grocery Company.....Buckhannon, W. Va.
Washington & Alexander.....Charles Town, W. Va.
West Virginia Implement Company.....Elkins, W. Va.
West Charleston Feed Company.....Charleston, W. Va.
Wilson, L. W., & Company.....Terra Alta, W. Va.
Woodyard, J. L.....Pruntytown, W. Va.